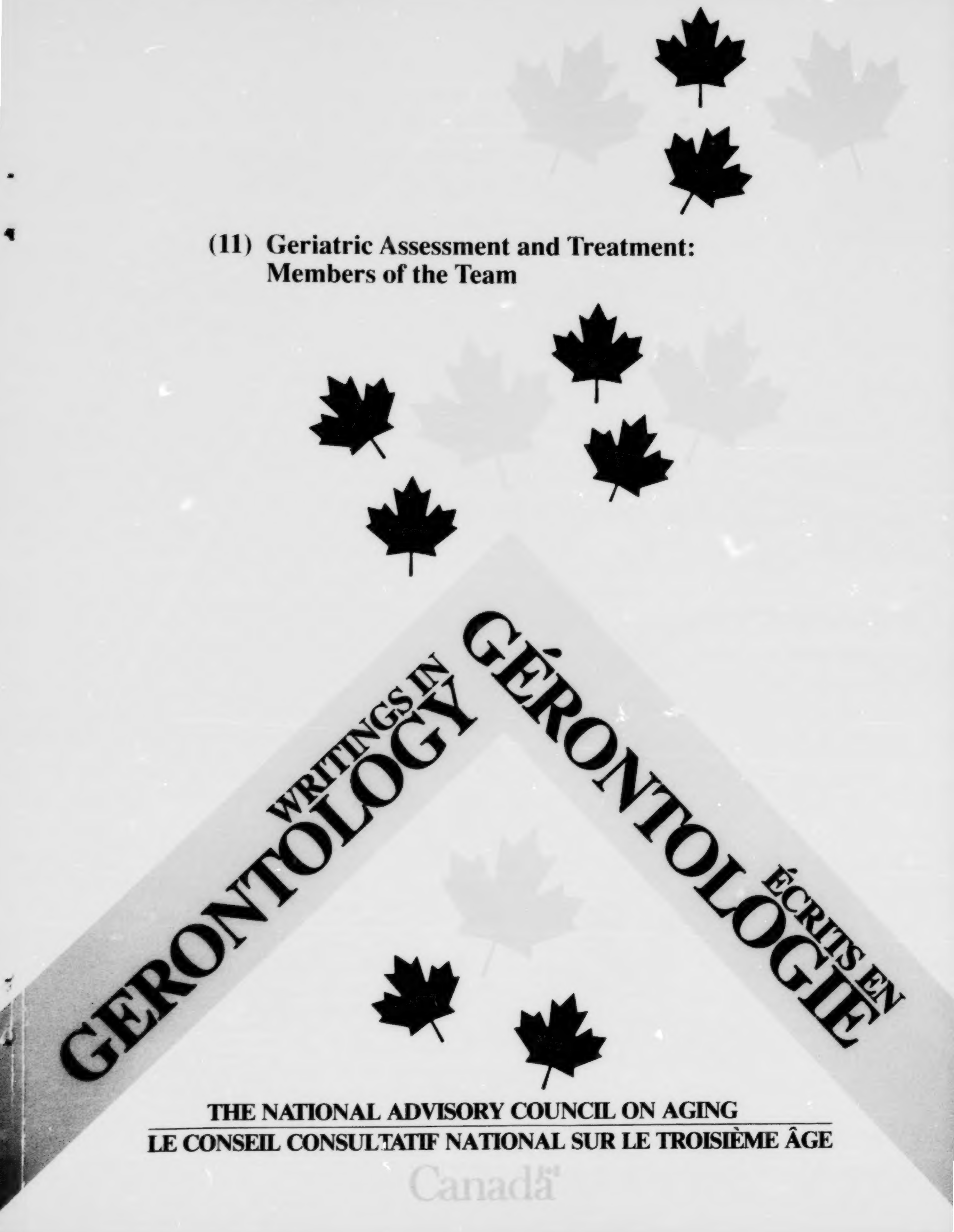
(11) Geriatric Assessment and Treatment: Members of the Team



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GERIATRIC ASSESSMENT AND TREATMENT: MEMBERS OF THE TEAM

The contribution of interdisciplinary teamwork to the quality of life of Canada's seniors

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FOREWORD

The *Writings in Gerontology* Series is intended as a vehicle for sharing ideas on topical issues related to the quality of life of seniors and the implications of an aging population. It is produced as part of the National Advisory Council on Aging's mandate to publish and disseminate information and to stimulate public discussion about aging.

The Council endeavours to ensure that the articles in the series provide useful and reliable information. Most of the texts are original manuscripts. Some are written by Council staff, others by experts in their fields.

This series is addressed to seniors and the people who care about their well-being. It is hoped that readers will find the *Writings* useful.

The Council welcomes comments on the topics selected as well as on the content of the articles.

S Fletcher

Susan Fletcher
Executive Director
National Advisory Council on Aging

PREFACE

Geriatric assessment and treatment address the health problems of seniors through appropriate multidisciplinary assessment and planning to meet individual needs. The aim is to enhance the independence, and thus the quality of life, of individuals as they cope with various conditions. Geriatric assessment programs use multidisciplinary teams to pool expertise to provide an holistic approach to seniors' health problems.

This document presents papers prepared under the auspices of seven associations whose members participate on multidisciplinary assessment teams, namely the Canadian Association of Occupational Therapists, the Canadian Association of Social Workers, the Canadian Dietetic Association, the Canadian Gerontological Nursing Association, the Canadian Pharmaceutical Association, the Canadian Physiotherapy Association, and the Canadian Society of Geriatric Medicine. Each author identifies and discusses the role of his or her particular discipline on the geriatric team, the unifying elements that contribute to effective team action and the specific contributions of that discipline to the well-being of seniors.

As these texts show very clearly, the challenge of multidisciplinarity requires that the individual professional must excel in his or her own discipline as well as have the special skills that are needed for the team to function effectively. These include learning to set common goals and objectives, agreeing on priorities, managing conflict and above all communicating. Another important key is assuring that the multidisciplinary intervention does not compartmentalize the individual, that it is truly "patient-centred."

Geriatric assessment is not a panacea. All the authors recognize, for example, that it must be co-ordinated with community-based services and collaborate with family members or friends who provide the informal social support that often determines the long-term outcome of assessment and rehabilitation efforts. This, of course, requires another set of special skills, as several authors point out.

On behalf of members of the National Advisory Council on Aging, I thank the exceptional people who have agreed to contribute to this publication. I wish to thank particularly Dr. B. Lynn Beattie for her co-ordinating role and her continued interest in promoting awareness about geriatric assessment and treatment.

A debt of gratitude is owed as well to all the writers in this document for having taken up the challenge of multidisciplinarity. Thanks are also due to Dr. Janet Martini for her editorial assistance and to the Canadian Society of Geriatric Medicine, the Société québécoise de gériatrie and the Canadian Gerontological Nurses Association for their co-operation in helping us update the Appendix.

Finally, I also offer special thanks to Pauline Chartrand, Consultant, Long Term Care, in the Health Services Directorate of the Department of National Health and Welfare for financial support and expert advice and to Francine Beauregard, Chief of Planning, Education and Projects at NACA for bringing this project to fruition.

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INTRODUCTORY CHAPTER

GERIATRIC ASSESSMENT: THE CANADIAN EXPERIENCE

PART II

by

Dr. B. Lynn Beattie, MD, FRCP(C)

May 1991
National Advisory Council on Aging

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INTRODUCTION

In March 1989, NACA published *Geriatric Assessment: The Canadian Experience*. This document was developed following a meeting of Canadian geriatricians and other professionals in the field in the fall of 1988.

At the time of the 1988 meeting, there was consensus that, though it was important that the physicians be an intimate part of geriatric assessment, the process does not occur effectively, particularly for the frail elderly, without the benefit of a multidisciplinary team. The purpose of this document is to complement the previous one and focus on the roles of each of the other primary team members - nurse, physician, occupational therapist, physiotherapist, social worker, dietician and pharmacist. Each role is specific and must be integrated with the activities of the available team members.

1. THE GERIATRIC ASSESSMENT UNIT

In the 1989 document, an article by Dr. Duncan Robertson reviewed Canadian models of geriatric assessment units (GAUs). Dr. Robertson incorporated a number of historical issues, starting with the Department of Veterans Affairs initiatives, and described some of the models in place as time has passed. He raised concern about the limited progress made in "matching assessment resources with the need for these resources within a defined population." He emphasized the dilemma of limited numbers of specialists in geriatric medicine to truly develop effective geriatric assessment services.

Dr. David Gayton looked at the purpose of geriatric assessment. Who needs it? Where is it done most effectively? How is it co-ordinated and implemented? Shall we look at primary prevention or secondary prevention (case finding)? Can we afford to do geriatric assessment? What about targeting? Will we be more likely to have successful outcomes if we are properly selective about who should have geriatric assessment? Many of these questions remain as evolution continues.

Dr. Christopher Patterson reviewed specific aspects of the "typical" GAU. He outlined a conceptual model for a GAU and discussed the personnel resources required. He also presented potential inclusion and exclusion criteria for admission and pointed out the need and resources for aftercare and continuing communication.

Dr. James Kirkland reviewed geriatric assessment in settings other than the "Unit." He reviewed inpatient consultation teams, day hospitals, outpatient clinics, and home visits. He also looked at the effectiveness of an integrated approach for elderly patients with multiple problems and noted that 75% of patients he was working with returned "home or to a lower level of care than anticipated before our intervention."

Finally, Dr. John Puxty summarized some of the complexities of geriatric assessment and reviewed components such as measurement of functional status, mental health, social network, and the potential of a standardized approach. The latter would ensure consistency, improve or direct diagnostic attempts, allow prediction of outcomes, monitor clinical change over time, direct placement or discharges, form a basis for planning, or provide a focus for leading models and policy discussion. To this end, he enumerated a set of assessment tools, not to be considered perfect, but to be considered a place to start.

2. THE INTERDISCIPLINARY APPROACH TO GERIATRIC ASSESSMENT

Geriatric assessment refers to the diagnostic, functional, and psychological evaluation, usually of the frail elderly. These individuals tend to be those at risk in the community for significant dependency-associated diseases accumulated with aging (dementia, osteoporosis, atherosclerosis, osteoarthritis), and the geriatric "giants" or syndromes (confusion, falls, immobility, incontinence, multiple medications). Geriatric assessment requires identification of those at risk (e.g., newly widowed males), preventive intervention strategies (placement of grab rails in bath tubs), and intervention procedures (identification and treatment of urinary incontinence).

The process of geriatric assessment is most viable when there is a competent team available, a team well versed in their discipline-related skills and familiar with diverse skills provided by other team members. In some circumstances, economic and personnel resources are limited, and fixed definitions of certain roles are not possible. In this situation, one or more disciplines must fulfil the role of a "missing" discipline.

3. THE IMPORTANCE OF TEAMWORK

A caution for teams is to address the potential of overlap.
Usually discipline-specific training and education programmes include a broad approach to roles. Inevitably, there is overlap. For example, the issue of nutrition is not only the province of the nutritionist. The occupational therapist must understand whether or not the person can get to and from the grocery store, prepare food, serve food, and feed himself or herself. The nurse and pharmacist may wish to know whether meals are taken regularly because this

may relate to medication issues. The physician may be concerned about the role of balanced nutrition when looking at the potential efficacy of an influenza immunization programme.

Each team member must accept that there is a developmental process whereby overall goals for assessment are reviewed and assignments are designated for individuals, particularly where overlap occurs. Returning to the example, the available nutritionist will ascertain the daily nutrient intake. Yet, effective communication with other disciplines, both through clinical records and team meetings, is also important, because further information may be gleaned when, for example, the nurse makes a home visit and finds the reported intake is unlikely because the refrigerator is bare. This same visit may also help to clarify such things as medication issues (e.g., the full medication bottles on the kitchen table may suggest that the medication is not being taken as directed).

The team must try to define problems at the highest level of understanding. It must also try to suggest and promote practical interventions. Usually plans can never be presumed to be undertaken and follow-up is mandatory. This enables the team to continue learning about its efficacy and also to have increasingly realistic aspirations.

In this volume, there are chapters from health professionals representing individual disciplines. Each contributor has been asked to focus on his/her discipline function and elaborate on it, keeping in mind the variability of team settings across the country. Contributors have been asked to comment on their discipline-specific functions, and to address unifying elements in the geriatric assessment process. In all of the presentations, there is an element of idealism couched with the recognition that there are many local compromises.

4. THE PATIENT, FAMILY AND COMMUNITY AS PLAYERS

Always included as team members must be the patient and his or her family. Acknowledging patient choices, and solving the problems defined by the patient are important. Attention to family members or other caring persons is imperative. There are significant caregiver factors that, at times, may overshadow the patients' problems *per se* when developing interventions. For example, it has been established that, often, the coping strategies of the spouse are more important than the severity of dementia, relating to whether or not the demented individual can live at home in the community rather than be admitted to a care facility.

Clearly, thorough knowledge of community resources and access to them as well as linkages between them is an important adjunct to geriatric assessment. Referral to an adult day centre is possible when one is available. The geriatric assessment team, at times, may find itself advocating for resources to fill in gaps as evolution of services takes place in a community. Patients and families may assist with this advocacy role. Community organizations, including seniors networks, often have important complementary roles.

The geriatric assessment process must be flexible. It is not restricted to the assessment unit and must be "tailored to the patient (not the reverse)," (Gayton: Geriatric Assessment: The Canadian Experience) and to the local resources.

5. THE IMPORTANCE OF CLEARLY DEFINED GOALS

The useful outcome of geriatric assessment must always be kept in mind. In other words, geriatric assessment is "expensive," both in terms of time and personnel, and therefore the goals of assessment must be clearly defined to allow maximum effectiveness, at the same time understanding the scope and limitations, of interventions available. Rehabilitation, for example, is a laudable goal, but it first must be ascertained whether the frail elderly individual can take part in the prescribed programme and potentially benefit from it. It is often disappointing -- and unrecognized by health care professionals, patients, or family members -- that there is nothing that can be done. On the other hand, in geriatrics, we often advocate for uncovering remediable problems despite significant age and frailty.

SUMMARY

Effective geriatric assessment is pivotal for the frail elderly in our communities and may be achieved in various contexts (the geriatric assessment unit, the care facility, the home).

There is an opportunity to review the process and ultimately develop a Canadian Database whereby we can more clearly understand and evaluate the roles of each discipline as well as regional programme variations. This capacity would recolour the map of Canada with a social brush depicting the frail elderly in different locations. There could then be an opportunity to learn from each other and improve health care service delivery and utilization.

The domains of geriatric assessment are broad. Recognition of need for adaptation, depending on local circumstances, is imperative. The integration of activities of professional team members to achieve interventions that satisfy patients and their families or surrogates is vital to effective and wise use of available resources.

THE CONTRIBUTION AND ROLE OF THE PHYSIOTHERAPIST

by

Lesley Bainbridge, BSR (P.T.)

and

Jenny Elliott, Grad. D.P., MCSP

May 1991
National Advisory Council on Aging

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INTRODUCTION

Physiotherapy, or physical therapy, has been defined as "the use of physical means to reduce pain and to maintain or improve physical function" (Ernst & Glazer-Waldman 1983) or as "the prevention or alleviation of movement dysfunction..." (Canadian Physiotherapy Association 1988). Physiotherapists in any setting strive to apply these principles in their assessments and treatments. The elderly client provides the physiotherapist with a special set of challenges that are particularly amenable to physiotherapy intervention as a part of a multidisciplinary approach. The physiotherapist, having successfully completed an approved undergraduate core curriculum, enters the workforce with specific skills that translate readily to a variety of geriatric settings, among which the therapeutic role will differ.

In the well elderly, the educational role can help to prevent disability; in the acute care unit, early mobilization can help to prevent functional decline, which could lead to institutional placement; in the rehabilitation arena, restoration of function can mean discharge back to the community; in the community, elderly clients can often remain in their own homes with adequate treatment and education of caregivers; in the institutionalized setting, maintenance of function and mobility can slow the physical and cognitive decline.

This introduction does not intend to imply that the physiotherapist can achieve these outcomes singlehandedly. As a part of a health care team, however, the physiotherapist can provide a valuable perspective while relying on other disciplines for their input during care plan development, either formal or informal.

This chapter will explore more fully the role of the physiotherapist in geriatric assessment and treatment. It will present examples of outcome tools useful to the physiotherapist working with the older client, and will discuss the interactive elements of the geriatric team.

1. THE PHYSIOTHERAPIST IN GERIATRIC ASSESSMENT

Physiotherapists most often assess a client once a physical problem has been identified, possibly by another member of the team if the client is not currently under the care of a physiotherapist. The term *most often* is used here to draw attention to the fact that the preventive screening role of the physiotherapist has been largely underutilized to date.

As a framework for physiotherapy assessment of the elderly client, Kirchner and Guyatt (1985) set out a trilogy of aims:

1.1 Discriminative Aims

To classify clients into diagnostic or problem groups so that treatment goals and interventions can be identified.

1.2 Predictive Aims

To determine the appropriateness of physiotherapy intervention and, subsequently, to predict outcome when physiotherapy treatment is deemed appropriate.

1.3 Evaluative Aims

To determine the amount of qualitative and quantitative change during and following treatment.

The important question, "So what?" must be asked in relation to assessment. The criteria must reflect a pragmatic approach to intervention - there is little point in assessing an area for which nothing can be done because of a lack of staffing, lack of funding, or a low priority rating. Where potential for remediation is determined, follow-up must exist for the assessment to be a useful exercise.

Assessment is differentiated from screening as an evaluative process. Kane (1982) describes screening as a practical and inexpensive measurement of the need for further investigation. Assessment, on the other hand, is defined as "a more detailed review than ... screening ... lead(ing) directly to diagnostic conclusions and assignment to interventive strategies" (Kane 1982).

The general assessment competencies of the physiotherapist in relation to movement dysfunction and pain, must be enhanced by a comprehensive knowledge of normal age-related changes within the body and mind in order to assess and appropriately treat the elderly client.

2. ASSESSMENT TOOLS

There is a paucity of validated assessment instruments designed specifically for use by physiotherapists in assessments for treatment programme and rehabilitation goals. However, most of the functional mobility Activities of

Daily Living (ADL) tools, which have been tested do contain sections (e.g., the mobility components) appropriate for completion by the physiotherapist. The scope of these sections varies tremendously, but physiotherapists should be aware of existing tools and of their ability to complete relevant portions. Applegate et al. (1990) suggest that "unless a clinician can clearly define the information needed and how it might affect clinical decisions, it is usually wiser not to use an assessment instrument at all."

Examples of ADL instruments include the Barthel Index (Mahoney & Barthel 1965), the Kenny Self Care Evaluation (Schoening et al. 1965), the PULSES Profile (Granger, Albrecht & Hamilton 1979), and the Klein Bell ADL Scale (Klein & Bell 1982). Two of the ADL tests particularly useful in a geriatric setting are the Physical Self Maintenance Scale (Lawton & Brody 1969) and the Index of ADL (Katz et al. 1963). A comprehensive critical look at several of the ADL scales can be found in the American Journal of Occupational Therapy (Law & Letts 1989). A useful evaluation of balance and gait can be found in the work of Mary Tinnetti, M.D. (Tinetti 1986).

Two of the more recent attempts to develop a reliable assessment tool for physiotherapists are *Physiotherapy Functional Assessment*, developed at The Rehabilitation Centre, Ottawa (Seaby et al. 1989) and *ADL-Oriented Assessment of Mobility*, resulting from work done at the Moorgreen Hospital, Southampton England (Pomeroy 1990). Both of these assessment scales are used to measure specific outcomes relevant to physiotherapy intervention.

2.1 The Physiotherapy Functional Assessment

This was developed and tested at the Rehabilitation Centre in Ottawa as a means of outcome measurement for physiotherapy intervention and as a tool for physiotherapists to use when identifying treatment goals and planning treatment protocols. Based on selected items from the Patient Evaluation Conference System (PECS)(Harvey & Jellinek 1981), from the Health Status Rating Form (Tapping 1981), and from variables identified by clinicians at the Centre, the physiotherapy Functional Assessment uses 13 items, including rolling, sitting, ambulation, wheelchair mobility, ability to manage environmental barriers, personal responsibility for mobility, and right- and left-arm function.

The Physiotherapy Functional Assessment was tested and found reliable as a clinical tool, a quality assurance monitoring tool, and as an evaluation index of the effectiveness of physiotherapy treatment when measuring mobility function. Although not designed specifically for older people, this assessment tool is useful to therapists working with the older client in a number of settings.

2.2 The ADL-oriented Assessment of Mobility

This tool has been shown to provide a reliable assessment of selected variables under the headings of: sitting-to-standing mobility, standing balance, gait and standing-to-sitting ability. Further work is necessary to extend the scale into other areas of functional mobility but, for the moment, it remains one of the few physiotherapy instruments for assessing the older client. It is an especially useful instrument for those therapists working with the cognitively impaired elderly.

In keeping with a holistic approach to care for the elderly, the physiotherapist must be cognizant of factors affecting the success of the assessment process, such as timing of the assessment, the importance of allowing for longer response time, environmental noise, fatigue, cognitive ability, outcome negotiation and motivational factors.

3. THE PHYSIOTHERAPIST IN GERIATRIC MANAGEMENT AND TREATMENT

3.1 Primary Goals

The primary goals of physiotherapy treatment have been stated as (Pickles 1983):

- prevention of potential movement problems;
- correction and alleviation of movement disorders that cause pain or otherwise reduce movement effectiveness;
- the maintenance of improved movement patterns;
- the prevention of unnecessary deterioration of movement and function.

A more detailed expression of the goals of physiotherapy treatment (Torresin 1989) divides them into remediation, prevention, and compensation:

Remediation:

- to cure the disorder or impairment;
- to relieve the current symptoms;
- to retrain function.

Prevention:

- to prevent a recurrence of disorder or impairment;
- to prevent complications including structural deterioration;
- to prevent deterioration in function.

Compensation:

- to optimize function;
- to minimize handicap.

3.2 Techniques

The therapeutic techniques used by the physiotherapist to achieve these goals include a wide range of electrotherapeutic modalities, such as ultrasound, helium neon and infra red laser, interferential current, and electromagnetic fields; a vast array of exercise options, both passive and active; simple and advanced joint mobilization techniques; neurofacilitation and motor control methods of muscle re-education; massage and relaxation techniques; hydrotherapy; and movement facilitation in areas such as gait re-education. Not all technical equipment is either available or appropriate in every setting in which physiotherapists treat elderly clients. For example, in the community, manual skills may be more practical, because equipment may not be easily portable.

Specific treatment interventions vary as they are tailored to the individual. Given the normal and abnormal effects of the aging process and the preferences and choices of the client, negotiation is necessary to develop mutually acceptable outcomes. The physiotherapist can modify treatment interventions by, for example, individualizing exercise programs or providing ambulation aids to help achieve the client's goals. A treatment programme for an elderly client should be no less thorough than that for a younger client, but timing and intensity will be different.

As with the assessment process, the treatment plan for the elderly client must consider environmental factors such as noise and light, fatigue, the need for shorter treatment sessions, the time of day, other competing demands on the client's time, attention span, and longer response time. Other factors influencing physiotherapy treatment include transportation arrangements, caregiver support, and treatment routines by other disciplines. In the care and management of the elderly client, motivation plays a crucial role. Expectations of the client by the physiotherapist must be modified frequently in light of the client's own needs or wishes (Jackson 1983).

General management issues such as waking time during the day, transfer or lifting techniques best suited to the client, or no-restraint issues can benefit from the physiotherapist's perspective and suggestions for alternative management strategies.

Physiotherapists must be active in developing clear and practical home exercise programs for the elderly patient - programmes that can be monitored by the clients themselves or by caregivers in the home. Wherever community physiotherapy is provided, modified treatment programmes in the home can help to improve mobility and to decrease pain. Working with occupational therapy and nursing colleagues to assess barriers to mobility in the home, the physiotherapist can identify those components of movement dysfunction that are most urgently in need of remedy.

Caregiver education becomes imperative in the continuing care phase of planning for the elderly patient. Caregivers may include any combination of staff, family, friends or volunteers. Whenever the client can return to the community, the home care or community care resources should be mobilized. The extent of the community resources will vary from area to area, as will the expectations of caregivers.

The physiotherapist can train caregivers in areas such as transfers and lifts, techniques for safely assisting with ambulation and use of walking aids, passive and active exercise programmes for the elderly in the home, and bed-positioning wherever necessary.

4. PREVENTION

Health promotion and health education comprise an integral part of care for the elderly population. Physiotherapists, by the very nature of their treatment interventions, promote physical well-being and educate clients. In the areas of exercise, mobility (including the use of aids), balance, fall-prevention and relaxation, the physiotherapist has expertise to offer the elderly population in an attempt to prevent movement dysfunction.

Prevention strategies can be divided into those that are diagnosis-specific and those that are age-related. For example, in Parkinson's Disease, Osteoporosis, Osteoarthritis, etc., specific prevention approaches can help to minimize the risk of falls or fracture. Because many of the disease categories overlap in the elderly, prevention strategies may also be more global. With respect to age-related changes, posture correction and appropriate exercise routines can assist in preventing immobility and falls. Parallel education of caregivers will enhance the success of these interventions.

Once dysfunction has occurred, it is imperative that the patient be educated in preventive strategies, particularly in the are a of falls. Caregiver education continues to be important, especially where the patient is to return to the community under the care of family or friends and where prevention of falls, for example, is critical in avoiding readmission to a facility.

Some of the approaches used by the physiotherapist with respect to prevention or patient/client education may involve joint protection through improved muscle strength, improved bed mobility, methods of getting up from the floor, posture correction (particularly in relation to osteoporosis), or exercise programmes for specific diagnostic groups, such as Parkinson's Disease or Osteoarthritis. Prevention of deformity, such as joint contractures, can be addressed through specific passive exercise programmes for caregivers to implement, and by preventive positioning in bed.

True prevention is aimed at the well-elderly and physiotherapists are not usually privy to this segment of the elderly population. Early detection of postural deformity, muscle weakness, balance disturbances and joint limitations in an apparently healthy older adult could, if followed by appropriate educational and exercise programmes, prevent falls and pain. Limited resources and lack of physiotherapists combine to make this a relatively untapped prevention strategy.

The role of physiotherapy in the promotion of independence of seniors lies predominantly in the field of physical function. Through the development of mobility skills, such as getting up from the floor, climbing stairs, specific transfer techniques, safer gait patterns etc., the physiotherapist provides the senior client with physical skills that will help him or her to cope alone or with a reduced level of care. The provision of appropriate mobility aids and instruction in their correct use will also enhance independence.

Exercise, correctly prescribed and taught, helps to strengthen muscle groups that affect gait, improve balance, and maintain upper extremity function. For the younger senior client, exercise programmes designed to assist in prevention of osteoporosis are skilfully taught by physiotherapists. Even those in the 85+ bracket can benefit from sedentary exercise to help offset the effects of osteoporosis. Mobilization of stiff joints, in conjunction with exercise, can assist in improving or maintaining functional mobility.

5. EDUCATION

Physiotherapists are equipped to teach exercise relating to fitness and health in the older client. Improved musculoskeletal condition, better breathing, more efficient cardiovascular function, and, most importantly, prevention of movement dysfunction through disuse are all benefits of a regular, appropriate exercise regime implemented by the physiotherapist.

6. HEALTH PROMOTION

The physiotherapist can help to provide information about specific disease processes and can assist in clarifying myths and alleviating fears of both caregiver and client. As a part of the geriatric team, the physiotherapist can become a part of the support system helping the caregiver and the client to remain as independent as possible.

7. THE PHYSIOTHERAPIST AS A MEMBER OF THE INTERDISCIPLINARY TEAM

Dr. C. Patterson (1989) describes physiotherapists as members of the nucleus of the geriatric assessment team. However, there is a chronic manpower shortage in the field of physiotherapy, a shortage that is particularly evident in areas dealing with the elderly client. Therefore, although the philosophical support for the team role of the physiotherapist is strong, it is often difficult to translate this into practice.

There is also a shortage of funding for physiotherapy positions, particularly in the privately funded facilities and in the community. These shortfalls may differ from one geographical area to another and from one provincial health care scheme to another.

The number of support staff available to work under the direction of the physiotherapist, undertaking delegated tasks for which they have been adequately trained, may be used to enhance the physiotherapist's role on the team. Where the physiotherapist must act as a consultant with a limited treatment role, support personnel and the assistance of other disciplines and family members in carrying out care plans become imperative.

The physiotherapist must be aware of a wide range of issues while often relying for detail on the other team members. Examples of issues peripheral to the role of the physiotherapist, which are vital to an assessment and treatment programme, include cognition, mood, communication skills/abilities, sensory loss such as vision or hearing, medication, nutrition, family support and palliative care. For example, although grooming and dressing skills are assessed by the occupational therapist, the physiotherapist may observe upper extremity strength and range of motion during these functional movements. Team discussion and documentation help to disseminate the findings of the various disciplines.

The role of the physiotherapist on the interdisciplinary team will expand and contract, depending upon the number of allied disciplines represented. For example, seating issues frequently fall within the occupational therapist's domain, but may be forced upon the physiotherapist in the absence of this colleague. The size and composition of the team will impact on the scope of the physiotherapist's role. The physiotherapist's skills are often limited to those associated with physical dysfunction and/or pain-relief. However, the many facets of cognitive dysfunction will radically influence treatment planning and intervention, and must be considered by every therapist working with the special challenge of the cognitively impaired older person. Although some physiotherapists may take a special interest in this area, it is not within the regular scope of the physiotherapist's skills to formally assess the cognitive or behaviourial aspects of the client. For this type of detailed information, the physiotherapist must rely on other team members.

As a member of the health care team providing assessment and treatment for an aging population, the physiotherapist is responsible for contributing to team discussions and goal setting. Good verbal communication skills in tandem with skilled negotiation abilities will enhance the physiotherapist's role in caring for the elderly. Compromise, combined with pragmatism and a respect for the value and skills of each team member, will help to yield realistic outcomes based on a true team approach.

Of all the elements contributing to effective teamwork, the interpersonal skills of the team members are of paramount importance. The physiotherapist's perspective is one of several and the unique elements of the physiotherapy assessment and treatment program should be congruent with other disciplines' findings and approaches. A skilled team leader who can be discipline-neutral can facilitate a cooperative interaction that recognizes the individual expertise of the various disciplines while identifying mutually agreeable goals and outcomes.

Because of the often limited physiotherapy resources in long-term care areas, a consultant role must frequently be adopted, but even with the limitations of such a role, the physiotherapist can add to effective team functioning by assessing carefully and realistically and offering contributions to the care plan that will enhance care of the elderly.

Cooperation and communication between and with the community-based staff is a must. The physiotherapist discharging a client to the community must liaise with the home support staff, both within physiotherapy and within other disciplines. The continuum of care is only as good as the communication system in place between and among formal and informal caregivers.

SUMMARY

The physiotherapist has a multifaceted role on the geriatric team. The role will vary, depending on the composition of the team and on the work environment. Across the spectrum of geriatric care, the physiotherapist plays an important role with respect to the elderly client at home, in the acute care hospital, in the long-term care facility, or in the rehabilitation setting. Throughout the continuum of care, there are key roles for the physiotherapist: those of assessment, of treatment, of consultation, of education and of health promotion.

The role of the physiotherapist in research is beyond the scope of this document, but the need for clinical research in geriatric care as it relates to physiotherapy practice cannot be overemphasized.

In cooperation with other disciplines, complementing the roles of others, the physiotherapist as clinician, as educator, as facilitator, as researcher, and as consultant contributes widely to the field of geriatric assessment and treatment.

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THE CONTRIBUTION AND ROLE OF THE SOCIAL WORKER

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INTRODUCTION

As most health care professionals now take a holistic approach to health, the usefulness of the participation of several disciplines in geriatric assessment and treatment is being examined and tested. Various models of interdisciplinary geriatric teams have been formed to respond to the multiple, complex and interacting bio-psychosocial problems that seniors present to the health care system. Although the composition and size of interdisciplinary geriatric teams vary, a social worker is usually a member of the core or nucleus team. In some geriatric team models, social workers are involved as consultants or as members of extended team structures.

1. ROLE OF THE SOCIAL WORKER

As a member of the geriatric team, the social worker has five major roles.

1.1 Assessment of the Social Environment

Consistent with the holistic, ecological approach to health presented in *Achieving Health for All: A Framework for Health Promotion* (Health and Welfare Canada 1986), the social worker has a major role in providing the psychosocial analysis and background to the interdisciplinary team. These data are essential to complement the biological findings when a comprehensive assessment and treatment plan for a senior is undertaken.

Social work brings to both assessment and treatment a focus on seniors as individuals interacting with their social environments. (Social environment includes the family network, the social support system [neighbours, friends, ethnic associations, religious groups, organized services], socio-economic status, vulnerability to abuse as well as the nature, quality and security of the physical environment available to the individual.) By maintaining this focus, the social worker helps team members from other disciplines to see and respond to seniors as persons whose age is only one and perhaps a minor characteristic of their entire life pictures. The social worker's review with the senior of his/her life events and experiences and sensitive interpretation of the significance of particular events may reveal coping skills and social network resources that can be applied in the current situation. The senior's views on the importance of the role of different family members--spouse, adult children, grandchildren, siblings, even extended family--for his/her well-being are given close attention.

The social worker's continued emphasis on the central and critical impact of the social environment on the quality of life and well-being of the senior also serves to offset a trend in the medical approach that tends to attribute any deficits in the health and functioning of a senior to a condition requiring a medical solution. For example, a senior's feeling of loss and loneliness may be related to the death of a neighbour who spoke with the senior every day. If this is revealed through social assessment, the treatment option then focuses on a search for alternate social supports, rather than solely on the prescribing of an antidepressant medication.

Frequently, the circumstances under which the assessment is undertaken complicate and obstruct the social worker's efforts to achieve participation of the senior and, where appropriate, the caregiver. The assistance of the geriatric team or the initiation of the assessment process is rarely sought by the senior, but, rather, by other interested parties such as family members, facility managers, physicians, nurses or other service providers who have their own purpose for the assessment. The assessment is usually initiated in response to significant functional or social loss on the part of the senior, which necessitates major change in the physical and social environment. The senior's reduced capacity may be used as a ready excuse for his/her minimal involvement in the process and the decisions. The assessment may be seen by the family as an intrusion into its privacy, as a criticism of its care, as immediate relief of its responsibilities, or as a threat of authoritative professionals taking over.

In assessing the psychological, social and emotional functioning of seniors and their families, the social worker explores *with* them a wide range of issues, such as their strengths and coping mechanisms in dealing with previous problems, the dynamics of solving dependency issues in the past, the support systems they have developed, their usual patterns of decision making, the internal family conflicts emerging from differing expectations about reciprocal rights and responsibilities of family members, the past-life experiences of the senior, the senior's feelings of loss and fears of further losses brought to the forefront by anticipated changes. This exploration is critical, as it provides the social context for assessing the senior's current needs and for identifying the senior's own resources as well as the family's. Analysis of these data is central in the social assessment.

Another essential component is the interpretation of how cultural values, traditions and experiences have shaped the senior's views of current needs and of acceptable options for care. This information enhances the geriatric team's understanding of the individuality of the senior and is essential to the process of developing a treatment plan that reflects the senior's choices and capacity to adapt and to take risks.

1.2 Development of Integrated Team Approach Based on Seniors'Involvement

Three principles of social work practice guide the role of the social worker in contributing to assessment or treatment of the senior:

- each individual is unique and merits respect for his/her autonomy and dignity;
- each individual has the right to make his/her own decisions;
- any behaviour has meaning; the professional has the responsibility to understand and respond to the meaning of the behaviour, as it is understood by the patient.

In line with the social work practice principles already stated, the social worker engages the senior and the family in the team's decision making by helping the senior think through and articulate concerns and preferences. The social worker has responsibility to maintain the active involvement of the family throughout the process and to identify the informal resources that can complement the services of the formal care system.

1.3 Identification and Mobilization of Resources

The social worker plays a major role in linking seniors and their families with facility and community resources that are needed to support different options for care. Resources in the complex, economically-stretched community system need to be identified and assessed for availability and accessibility as well as for competency and mandate to deal with the problem. This information must then be conveyed to the geriatric team and to the senior and family. Sufficient information about available options for care must be shared by all the players, especially by the senior, to ensure that decisions on the type of care are based on awareness of the risks and benefits of different options. When a decision is reached on the preferred option of care, the social worker may need to coordinate a number of services in order to mobilize and utilize all the necessary resources.

1.4 Provision of Counselling

Counselling of the senior and family members is usually needed to assist them to cope with their feelings of loss, grief and guilt as they make a stressful transition to changed lifestyle, living conditions and responsibilities.

1.5 Mediation Between Seniors and Key Players

During the period when the senior is adjusting to a different type or level of care, the expectations of the various players often require ongoing clarification to relieve the consequent tensions. The social worker may need to mediate between the players, for example, between the senior and care providers/geriatric team/family; or between the family and care providers/geriatric team, or between members of the geriatric team themselves.

The social worker explores and attempts to exploit the capacity of the new care environment to adapt to the idiosyncrasies of the senior, but also assists the senior in adapting to changes and coping with changing expectations.

2. KNOWLEDGE BASE

To fulfil this range of functions expected of the social worker as a member of the geriatric team, the profession's training requires both a special knowledge base and development of specific skills. The social worker's relevant knowledge base, rooted in the study of psychology, sociology, economics, history and religion, includes an understanding of theories concerning the bio-psychosocial aspects of aging, cultural origins and differences, group and family dynamics, significant recent historical events, demographic and economic trends that have affected seniors, the organizational structure and politics of the health care system that relate to seniors, the existing complex resource system and how resources are developed.

3. SKILLS

The social worker brings to the assessment and treatment of seniors experience and skills in:

- interviewing, collecting and analyzing data, and conveying the essential information as understandable language to the senior, the family, colleagues and care providers;

- explaining the senior's culture, language, religion or economic or social status to other team members and to care providers;

- enabling seniors to make the most of personal resources, to participate in the process to the extent of their capacity, to preserve maximum independence, and to respond to the situation in the most constructive and least damaging way possible;

- mediating tensions and conflicts between any of the players in the process;
- counselling the senior and the family and helping them to adjust to the transition, to accept limitations and disabilities and to cope with loss and grief;
- coordinating the efforts and energies of the senior, family and team members to attain specified goals;
- identifying, assessing, mobilizing, coordinating and utilizing existing services in the facility or the community and in maintaining liaison;
- advocating for the senior to access needed services and for service flexibility to meet the needs of the individual;
- consulting with and educating care providers or planners to focus directly on the senior as a person *interacting* with the social environment.

4. BOUNDARIES AND LIMITATIONS

The importance accorded by the host agency or institution to the psychosocial component in the geriatric assessment process may limit the ability of the social worker to practise his/her skills. A further determinant of the extent of the social worker's contribution is the composition of the geriatric team and the assignment of specific tasks to certain disciplines. The social worker's areas of responsibility for psychosocial assessment may in some cases be limited to only one or two aspects (e.g., living conditions, family support system, community resources). Further constraints are restrictive, prescribed formats (e.g., checklists) used to guide team members' reporting. This obviously places restrictions on all team members. As the elderly do not always fit into neat categories or checklists, such tools should be used only as guidelines.

The entire geriatric team can be more productive if the members treat each other with the respect that their professions deserve.

5. UNIFYING ELEMENTS OF TEAM ACTION

5.1 Structure

The social worker on a geriatric team can contribute to team building by using social work skills in areas of problem solving, interpersonal communication, negotiation and group dynamics. However, in instances where the social worker has the assigned position of team coordinator or of case manager, he/she may facilitate the process of team building more effectively. The social worker may also utilize this position to keep the team's focus on the individuality of the senior at all times during planning, decision making, review and follow-up. Focusing on the individual serves to draw together the energy and expertise of team members to respond to the senior's needs, as opposed to each team member attending only to the aspect of the problem that falls within his/her expertise. Collaboration of team members to produce a comprehensive geriatric assessment and an integrated treatment plan or coordinated service delivery frequently requires a blurring of traditional disciplinary boundaries.

The structure of the team needs to be flexible enough to permit ongoing redefinition and reassignment of responsibilities of team members to most effectively use the resources of the team in meeting the needs of the senior. Clearly, skilful team coordination or management is required to avoid confusion, duplication or omission of care.

5.2 Policy and Procedures

A policy of periodic review by the whole team of the job descriptions of the team members could support negotiation for adjustments in responsibilities at a time uncharged by tension. Continuing evaluation of lines and methods of reporting is needed to assess how effectively they are promoting communication among the team members. The regulations governing the disciplines of the different team members need to be examined to determine how they may be reinforcing barriers to coordinated care. The social worker has the responsibility to ensure that the policies and procedures used by the team are consistent with the psycho-social needs of the senior.

5.3 Tools

Although social workers in geriatric teams have been trained to apply and do, in association with other team members, utilize such common tests as the Folstein Mini Mental Status Exam for general cognitive assessment (Folstein et al. 1975), the Geriatric Depression Scale for general sense of depression (Yesavage et al. 1983) and the Zarit Caregiver Burden Scale to (Zarit 1982) assess family stress, such tools are not social work tools *per se* and do not replace the social worker's methodology of data collection and analysis. The social worker considers the information gained from such tests, but the social worker's skills are applied to helping the senior and the family understand the implications of test results for changes in living arrangements and lifestyle.

6. SPECIFIC CONTRIBUTIONS TO THE WELL-BEING OF SENIORS

The social worker's emphasis is on the strengths and personal resources that the senior brings to the situation and how these may be reinforced by increasing the senior's own sense of ability and bringing these strengths to the attention of other players (family members, the geriatric team and care providers). The social worker identifies the senior's existing support systems (extended family, neighbours, friends, fellow worshipers, ethnic associations) and mobilizes any such resources to support the senior's independence. Community services, such as Meals-on-Wheels, Transit for Disabled, and shopping and handyperson services, which relieve specific barriers to independent living, are drawn in to prolong the senior's independence and sense of control over living arrangements and decisions. However, as the senior's balance of needs and support is constantly shifting, the social worker responds with frequent adjustments to the care plan, locating new services as needed. This generally involves beginning with preventative periodic care services, moving to sustained supportive and protective services and finally, to long-term intensive care.

In each of these transitions, the social worker provides counselling to seniors and their families to enable them to clarify their concerns, express their fears and cope with increasing dependency.

7. SUPPORT TO INFORMAL CAREGIVERS

Informal caregivers provide an invaluable service in each phase of care for the senior and require constant recognition of their needs. The caregiver requires continuing supportive counselling as well as access to community services that offer respite care and other supports. As has been noted earlier, the family and the support network are the foci of the social worker's attention in identifying and nurturing the strengths and resources that the individual senior brings to a life transition.

SUMMARY

As a member of an interdisciplinary team, the social worker has a major role in providing the psychosocial analysis and background for geriatric assessments and treatment. The social worker maintains the focus on seniors as unique persons interacting with their social environments, which profoundly affect the quality of their lives. The social worker recognizes the important role of the family and ensures that the senior and the family are active participants and decision makers throughout the process. The social worker supports the strength that seniors and their families bring to the situation and locates the appropriate services and/or facilities in the community to supplement these resources.

The skills in counselling, mediation, advocacy and coordination, which the social worker uses in addressing various problems presented to the interdisciplinary team, impact directly on the quality of life of the senior during the assessment and the treatment process.

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THE CONTRIBUTION AND ROLE OF THE DIETITIAN

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INTRODUCTION

It goes without saying that adequate food and fluid are essential to attaining and maintaining good health at any age. At the same time, it is well recognized that the nutritional well-being of the elderly individual is often compromised by a host of physiological and psychosocial changes attributed to aging, along with a higher incidence of chronic disease and, frequently, an increase in use of prescription and over-the-counter medications. Therefore, the determination of nutritional status, with appropriate intervention and follow-up, forms an integral part of geriatric assessment.

The dietitian is uniquely qualified in the assessment of nutritional status and identification of those individuals at nutritional risk, and is particularly skilled in the practical applications of such assessments. Education and counselling for both the prevention and treatment of the nutritional concerns common to the elderly are also major contributions of the dietitian practising in the field of geriatrics.

The discussion that follows will focus on the specific activities related to nutritional assessment and treatment, the tools and methods that are most commonly used and the interactions with those who, in a broad spectrum of settings, give care to the aging members of our population.

1. NUTRITIONAL ASSESSMENT

Nutritional assessment ideally consists of a two-part approach. The first is an initial screening that identifies individuals with existing nutritional problems or at significant nutritional risk. Those identified as at-risk are then referred to the dietitian for the second part of the process, a comprehensive nutritional assessment.

1.1 Initial Screening

At present, there is no standard nutritional screening tool in wide use. However, the following criteria are commonly used in initial screening (Ross Laboratories 1990; Hunt et al. 1985):

- involuntary recent loss of 10% or more in body weight;
- anorexia;
- dentition problems: difficulty in chewing: dysphagia;
- gastrointestinal problems, including nausea or vomiting, diarrhea or constipation;
- significant functional/ADL deficits;
- dementia/cognitive deficits;
- food allergies, therapeutic diet orders or self-imposed restrictions;
- underlying disease states that may have adverse effects on nutrition/appetite;
- medications that have adverse effects on nutrition/appetite;
- depression and/or recent losses, e.g., death of spouse.

Recognition of risk factors is somewhat dependent upon who is doing the screening (Collingsworth & Boyle 1989). In certain settings, the dietitian may be responsible for routine screening but, more frequently, nutritional screening is part of the physician's routine physical exam. Nutrition risk factors are usually included in preadmission screening tools and nursing data bases. Thus, the preadmission assessor or primary care nurse may have the first opportunity to identify individuals at nutritional risk.

1.2 Comprehensive Nutritional Assessment

A comprehensive nutritional assessment involves collection of dietary, clinical, anthropometric and laboratory data, which are compared to standards representing a state of normal nutrition. A major obstacle facing the dietitian in assessing the elderly is the lack of widely accepted age-specific standards (e.g., weight-to-height). Information on functional and social/environmental factors that may affect nutrition are noted and correlated with initial screening findings. Although formats are varied, the following type of data are typical of the information the dietitian will assemble when doing an assessment. Regardless of the limitations, the collection of baseline data allows for subsequent objective evaluation of the effects of nutrition interventions (Steffee & Clark 1982).

DIETARY DATA	SOCIAL AND ENVIRONMENTAL DATA
Meal Pattern	Facilities and Budget
Food Preferences	Ability to Shop/Prepare Meals
Food Frequency (qualitative)	Formal and Informal Caregiver
Dietary Recall	Family, Social and Other Supports
Vitamin/Mineral Supplements	**PHYSICAL AND CLINICAL DATA**
Fluid Intake	Medical Problems and Diagnoses
Alcohol Intake	Medical History
Food Allergies/Intolerances	Current Medication
Therapeutic Diets	Physical Appearance
Attitude and Motivation	Skin Integrity

FUNCTIONAL DATA	ANTHROPOMETRIC DATA
Vision and Hearing	Weight
Dentition/Chewing Ability	Height
Speech and Language	Usual Weight and Weight History
Cognition	Tricep Skinfold
Ambulation	Midarm Muscle Circumference
Manual Dexterity	
Bowel Habits and Bladder Functions	**LABORATORY DATA**
Activiy Level	Hematology
General Appetite	Biochemistry

1.2.1 Dietary data

A complete diet history will include the individual's usual meal pattern, food preferences, frequency of nutrient-dense foods or, conversely, nutrient-poor choices, alcohol intake and use of vitamin/mineral supplements. The dietitian also wants to be aware of any food allergies or intolerances, therapeutic diets or food restrictions, and the individual's attitude with respect to food and dietary modifications.

Where possible, the dietitian obtains the diet history directly from the individual and/or family members, using one or more of a number of methods or tools, as the situation dictates. Meal pattern checklists, food frequency questionnaires, 24-hour recalls or food diaries are commonly used but have the drawback of requiring reasonable short-term memory (Roe 1987). In cases where the individual is unable to supply a reliable diet history and where there are no family members or caregivers to contribute relevant information, some idea of the individual's intake may be obtained by observation at meal times. In a day-facility or inpatient setting, the dietitian may rely upon the nurse or occupational therapist to complete a dietary intake record, which is returned to the dietitian for analysis. These observations may not, however, reflect the usual at-home intake. Home visits, whether by a home care nurse, preadmission assessor or other health care worker, can provide information on food stuffs purchased and available in the home and other relevant dietary details. If the dietary data is sufficient, an estimation of the nutritional adequacy of past and current intake may be determined. The dietitian can evaluate the dietary intake in a simplified form, that is, estimated energy, protein, carbohydrate and fat using the standard diabetic exchange system (Canadian Diabetes Association 1981). Dietary intake may also be compared to the recommendations in Canada's Food Guide and, combined with food frequency information, can be sufficient to judge the overall quality of the diet (Health and Welfare Canada 1983). Availability of computer nutrient analysis facilitates more exact calculations, including micro-nutrients, which can be compared to the Recommended Nutrient Intake (RNI) for older Canadians (Health and Welfare Canada 1990). Manual calculation of micro-nutrients is generally considered too time-consuming and unwarranted on a routine basis.

1.2.2 Functional and social/environmental data

Factors such as dentition, cognition, family supports and general lifestyle can have a significant impact on nutritional status. Information here can help the dietitian in determining such things as the need for special texture modifications, the level of counselling and education materials, and the potential for compliance with dietary modifications. The functional and social/environmental data are obtained from documentation by and discussion with the other disciplines, from direct observation and from interviews with the individual, family members or care givers.

1.2.3 Physical/clinical data

Awareness of factors such as medical and surgical treatments, the presence of dehydration or edema, cardiac and gastrointestinal function, liver and renal function, and medications is important, as these clinical variables potentially influence other criteria used in the nutritional assessment. As well, the physician's impressions with respect to diagnosis, prognosis and treatment often provide some of the rationale for the dietitian's intervention decisions (e.g., if the focus is palliative care compared to convalescent care and functional goals).

1.2.4 Anthropometric data

Collection and interpretation of anthropometric measurements presents a problem. This is due not only to the physiological changes associated with aging and questionable reference values for the elderly, but also to the frequent lack of suitable equipment such as chair or bed scales for the non-ambulatory, and potential variances in measuring technique (Matthews 1986).

Weight is generally the most easily obtained and most accurate measurement and can be used on its own to provide a rough estimate of energy and protein requirements. A weight history is important, particularly if weight loss is a concern, since it allows for the calculation of both the percent weight loss and the severity of the loss. Collateral information is often helpful and frequently can be obtained from the physician's office records. Information about change in clothing size is useful.

Since obtaining an accurate height can be difficult because of curvature of the spine and the inability of the elderly to stand up straight, alternative techniques can be used, including taking the measurement in a recumbent position. Finger-tip to finger-tip arm span can provide a close estimate of height. Alternatively, a formula has been developed, though it is not widely used, to calculate stature from knee height (Matthews 1986; Chumlea et al. 1984). Self-reported weight and height are not generally regarded as reliable. Current weight and reasonable estimates of height and frame size can be compared to standard height and weight tables (Friscancho 1984). These measurements can also be used to determine the body mass index (BMI), a measure of fat stores, and the basal energy expenditures (BEE) using the Harris-Benedict formula (Ross Laboratories 1990). Only the BEE is age-specific. It is the most accurate method available for estimating resting energy needs and can be adjusted for activity level. Tricep skinfolds (TSF), a measure of body fat and mid-arm muscle circumference (MAMC), a measure of lean body mass, are infrequently taken because of controversy over whether they provide a reliable reflection of body composition in the elderly (Steffee & Clark 1982). The dietitian who does use these measures must be aware of the limitations in interpretation. Percentile tables for TSF and MAMC are available, though not age-specific, and allow for some estimation of the depletion of fat stores and the degree of muscle wasting (Chumlee et al. 1984).

1.2.5 Laboratory Data

Interpretation of laboratory indices is complicated because of uncertain standards of comparison for the elderly. In addition, these indices may be influenced by physical and clinical factors, such as the presence of dehydration. Therefore, interpretation will most often involve consultation with the physician before a conclusion is drawn as to the cause of abnormal findings. Ideally, a hematological and biochemical profile would be available routinely and screened for evidence of iron, folate or B12 deficiency, hyperglycemia and other nutritionally related indices such as serum albumin (Ross Laboratories 1990). Where resources are available, the dietitian may request an order for a specific laboratory value if it is felt that the result is needed to clarify or support a suspected nutritional deficiency. A telephone call to the physician's office may reveal this information on the patient's file.

1.3 Nutrition Care Plan

The practical application of nutritional assessment is the development and implementation of a nutrition care plan (NCP). The NCP includes the design of therapeutic or normal meal plans that are acceptable to the individual. It is essential to impose as little change as possible on the normal eating patterns. Before initiating any dietary modifications, the individual's needs and the anticipated outcome of the intervention must be clearly defined. Whenever possible, the dietitian actively seeks the involvement of the individual in the planning of nutritional care.

It is often necessary to reevaluate, in consultation with the physician, the appropriateness of existing therapeutic diet orders that may be overly restrictive or no longer valid.

If a nutritional deficiency is identified or if energy needs cannot be met with normal food intake, the dietitian may recommend vitamin or mineral supplementation or the use of appropriate nutritional supplements. For those individuals requiring tube feeding, the dietitian can recommend the most suitable product and the volume required to meet energy needs.

As part of the NCP, regular progress reviews are scheduled, the frequency depending upon the individual's need. Progress monitoring may include checking weights or relevant laboratory values, observation at meal times or review of dietary intake records, review of the progress notes of the other disciplines, follow-up interviews with the individual or family members, and discussion with team members, informally or at scheduled meetings.

Though it may seem that a disproportionate amount of time can be spent in team meetings, the dietitian recognizes that this is the forum where much of the information sharing and decision making takes place and where the dietitian can gain further knowledge of the individual's status and the planned interventions of the other disciplines. At the same time, the dietitian has the opportunity to ensure that nutrition components are integrated into the overall care plans.

Discharge planning may be part of the NCP. Therefore, the dietitian must be familiar with relevant resources and support services in the community. It is especially important that links be established if the individual is to benefit from continuity of care, whether it be delivered in the home or in another facility. Although the dietitian can make contact directly with the appropriate services, the social worker, case-coordinator, home care nurse or occupational therapist can be particularly helpful in establishing and maintaining these critical links. When nutrition intervention is a major component of the overall care plan, as it frequently is in the care of the elderly, the dietitian may make home visits or act as a consultant to home care givers (Burns 1987). At a minimum, the dietitian will provide a discharge summary of the nutritional assessment, progress to date and recommendations for follow-up care. Written guidelines on meal patterns, dietary restrictions and so-forth may also be included for use by the individual or caregivers.

The results of the nutritional assessment and the nutritional care plan are documented in the medical record, as are progress notes and discharge plans. Thorough documentation is particularly important when the dietitian is available on a limited referral basis only.

2. COUNSELLING AND EDUCATION

The dietitian is adept at providing nutrition counselling for those individuals who are alert, cooperative and without significant cognitive impairment. The primary goal of counselling is to show how normal energy and nutrient needs or therapeutic dietary needs can be met in ways that are realistic and achievable, given the individual's lifestyle, long-term nutritional habits and personal goals. This can present a major challenge, not just for those living at home, where factors such as budget restraints or functional impairment may restrict access to safe, nutritious food, but also to those in institutional settings, where menu limitations may not readily accommodate personal and cultural food preferences. Often, in a geriatric assessment situation, both the patient and the spouse must understand the nutritional goals. Other caregivers, both formal and informal, may need counselling for specific management information.

Written materials can include simplified meal plans, sample menus and shopping lists, short lists of foods to avoid and/or include, and local sources of special nutritional products that may be required. Reliable teaching materials are available from the provincial and federal ministries of health and other health organizations. In many cases however, these materials may require further simplification and clarification for use with the elderly. The dietitian may also reinforce the instructions given by the physician, nurse or pharmacist on the timing of food intake with respect to specific medications, as the optimum therapeutic effect may be enhanced or decreased by the simultaneous ingestion of food.

In certain health environments, for example a geriatric assessment unit, the dietitian may conduct nutrition education classes. The goal of these classes is provision of nutrition information in a social and non-threatening setting. Topics for classes can range from food sources of key nutrients and the importance of fluid intake to understanding food labelling and exploring food myths. It is hoped that this information sharing may promote improved dietary habits and thereby assist in prevention or alleviation of some of the common nutrition-related problems facing the elderly.

The dietitian also serves as a nutrition resource by educating other health care professionals on the rationale for certain dietary interventions, the nutritional implications of specific diseases and medications, and the role of the dietitian in geriatric care.

3. CONTRIBUTIONS TO QUALITY OF LIFE

The dietitian holds the view that nutrition is a significant, controllable component of preventive health care as well as a factor in the treatment of various disorders that may afflict the elderly individual.

By promoting nutritional well-being, the dietitian contributes to the individual's perceived physical, psychological and interpersonal well-being, in other words, those attributes that constitute quality of life (Padilla 1990). Concrete examples include improved nutritional intake, which leads to faster recovery from illness or surgery and earlier discharge from institutional care; increased nutrition knowledge and understanding of how to make healthy food choices or how to follow a therapeutic diet that contributes to a greater sense of control; prevention, delayed onset or lessened impact of certain chronic diseases (such as diabetes), which contributes to better health and prolonged independence.

SUMMARY

The primary role of the dietitian in interdisciplinary geriatric assessment lies in determination of nutritional status and development of a nutrition care plan that meets the defined needs of the individual. During this process, the dietitian interacts extensively with the other disciplines and depends on them for much of the information upon which to base nutritional assessment and for implementation of certain aspects of the nutrition care plan. Nutritional assessment is hindered by the lack of standards and tools specific to the elderly and dietitians await timely development in this area.

The dietitian provides individualized nutrition counselling and education and also acts as a nutrition resource for other health care professionals.

By promoting the nutritional well-being of the elderly, the dietitian helps them to maximize their potential for health and independence and an enhanced quality of life.

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THE CONTRIBUTION AND ROLE OF THE OCCUPATIONAL THERAPIST

by

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National Advisory Council on Aging

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INTRODUCTION

This chapter discusses the role of occupational therapy in the geriatric team, including evaluation, programme planning and intervention. It describes the contribution of occupational therapy to the well-being of the geriatric population. It also delineates the interdisciplinary cooperation between occupational therapy and other health professionals in health promotion and disability prevention among the elderly.

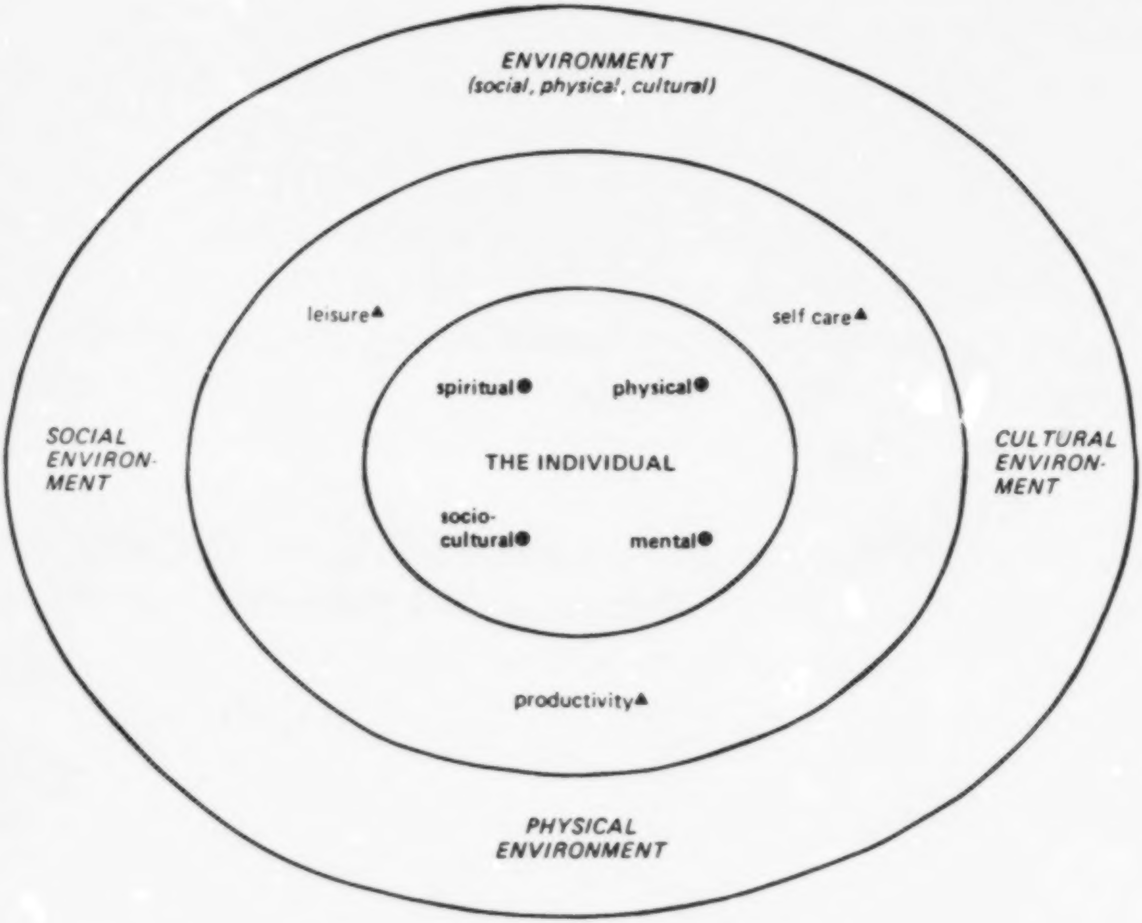
1. THE MODEL OF OCCUPATIONAL THERAPY

The practice of occupational therapy includes, evaluation, programme planning, intervention, re-evaluation, completion and follow-up. This section focuses upon the role of occupational therapy in evaluation and intervention.

The Model of Occupational Performance (Figure 1) provides the basis for occupational therapy evaluation of and intervention with the elderly patient. This model places the aged person within the centre of interacting spheres. The examination of the elderly patient's physical, social and cultural environment (outer circle, Figure 1) is an integral part of the evaluation of occupational performance and quality of life. The model defines *balanced life* as adequate performance in three areas (middle circle, Figure 1): self-care, including personal care, functional mobility and community management; productivity, including paid or unpaid work, household management and handyperson work; and leisure, including recreation and socialization. Satisfactory performance in each area depends on integration of four factors (inner circle, Figure 1), which involves the physical, socio-cultural, mental-emotional and spiritual self. The balanced integration of these four factors ensures healthy functioning and a sense of well-being. Thus, using this model, each person defines his/her unique occupational performance.

Figure 1

INTERACTING ELEMENTS OF THE INDIVIDUAL IN A MODEL OF OCCUPATIONAL PERFORMANCE■


ENVIRONMENT
(social, physical, cultural)
leisure▲
self care▲
spiritual●
physical●
SOCIAL ENVIRONMENT
THE INDIVIDUAL
CULTURAL ENVIRONMENT
socio-cultural●
mental●
productivity▲
PHYSICAL ENVIRONMENT

● Performance Components
▲ Areas of occupational performance
■ Adapted from Reed and Sanderson, 1980

Source: Health and Welfare Canada and the Canadian Association of Occupational Therapists. 1983. *Guidelines for the Client-Centred Practice of Occupational Therapy*. Ottawa. Health and Welfare Canada, p. 3.

2. OCCUPATIONAL THERAPY EVALUATION

When an older patient is referred to occupational therapy, evaluation identifies areas of dysfunction and strength. It also establishes priority areas for treatment goals. There are four parts to an occupational therapy evaluation. First, there is an interview with the patient. At this time, the therapist initiates a therapeutic relationship and explores with the patient possible therapeutic goals. Second, the therapist examines other sources of information. Facts from the patient's family and/or caregivers on their roles and their perceptions of the patient's strengths and weaknesses are emphasized. Third, the occupational therapist assesses specific tasks or uses standardized tests to determine the elderly patient's ability in performing tasks related to physical, mental, socio-cultural or spiritual factors. Fourth, the occupational therapist, together with the patient, the family and other members of the interdisciplinary team, integrates the collected data, specifies problems, then plans an intervention programme of occupational therapy. This evaluation process has been formalized through the Canadian Occupational Performance Measure (Law et al. 1990). (See Figure 2.)

2.1 Canadian Occupational Performance Measure

The Canadian Occupational Performance Measure (COPM) is an outcome measure based upon the Model of Occupational Performance. The COPM considers the patient's environment, developmental stage, life role and motivation but focuses upon performance in self-care, work and leisure as the primary outcome. It also regards physical, mental, spiritual and socio-cultural factors as important in the process of occupational performance.

The COPM is used by occupational therapists to identify problem areas in occupational performance, to formulate therapeutic goals and to measure change over the course of intervention. The measure is *not* diagnosis-specific, is sensitive to clinical change and incorporates the measurement properties of reliability, responsiveness and validity.

Patients have responsibility for their health and their therapeutic process. The COPM engages the patient from the start of the occupational therapy experience, thereby increasing the patient's involvement with the intervention process. The COPM enables the therapist and the patient to identify and deal with lifespan issues and to use goal-directed tasks and activities. If patients are unable to answer on their own behalf, there is sufficient flexibility to allow input from others in the patients' social environment.

The measure is administered in five steps: problem identification, problem weighting, scoring, re-evaluation and follow-up.

2.1.1 Problem identification

Using a semi-structured interview with the patient, the occupational therapist guides and encourages patients to identify problems in their self-care, leisure or work activities.

2.1.2 Problem weighting

Once the problem areas have been identified, patients rate each problem as to its importance in their life. This scale has ten points, from "not important at all" to "extremely important." Patients then select no more than five problems with the highest rating, or those that they perceive as the most pressing.

2.1.3 Scoring

Patients complete a subjective assessment of both their current performance in the problem area and their satisfaction with current performance. Patients rate their current performance on a ten-point scale, from "not being able to do it" to "able to do it extremely well." They rate their satisfaction with their performance on a ten-point scale, from "not satisfied" to "extremely satisfied." This process results in five importance scores, based upon patients' perception of the importance of each problem. The importance scores are used to weight the patients' perception of their current performance and their satisfaction with that performance. Two total scores are calculated by adding the weighted scores and dividing the sum by the number of problems (Figure 2).

Figure 2

THE CANADIAN OCCUPATIONAL PERFORMANCE MEASURE*

STEP 1: Problem Definition

To identify occupational performance problems ask the client the questions listed for all areas. (ie. self-care, productivity and leisure).

If **yes** to either a, b, or c {
a. Do you need to do ______________________________?
b. Do you want to do ______________________________?
c. Are you expected to do ____________________________?

And no to either d, e, or f {
d. Can you do ___________________________________?
e. Do you do ____________________________________?
f. Are you satisfied with the way you do ________________?

Then go on to identify specific problems.
If **no** to a, b, or c, **OR yes** to d, e, or f, then proceed to the next area.

STEP 2: Problem Weighting

Using the scoring cards provided, ask the client to rate, on a scale of 1 to 10, the importance of each activity. Place the ratings in the corresponding boxes.

Source: M. Law, S. Baptiste, M.A. McColl, A. Opzoomer, H. Polatajko and N. Pollock. © 1990. *The Canadian Occupational Performance Measure.*

* Steps 1, 2, 3 and 4 reproduced here with permission.

STEP 3: Scoring

Ask the client to choose the 5 most important problems and record them below. Using the scoring cards, have the client rate each problem on performance and satisfaction, then calculate the weighted scores.

PROBLEMS:	IMPORTANCE	PERFORMANCE 1	SATISFACTION 1	IMP x PERF 1	IMP x SAT 1

TOTALS: TOTAL IMP x PERF 1/# of problems = Performance Score 1

TOTAL IMP x SAT 1/# of problems = Satisfaction Score 1

STEP 4: Reassessment

Re-evaluate each problem at a suitable interval in terms of performance and satisfaction. Calculate the new weighted scores and the change.

PERFORMANCE 2	SATISFACTION 2	IMP x PERF 2	IMP x SAT 2

TOTAL IMP x PERF 2/#of problems = Perf Score 2

TOTAL IMP x SAT 2/# of problems = Sat Score 2

CHANGE IN PERFORMANCE = Performance Score 2 - Performance Score 1 =

CHANGE IN SATISFACTION = Satisfaction Score 2 - Satisfaction Score 2 =

2.1.4 Re-evaluation

This depends on the progress of the patient and the clinical judgement of the occupational therapist. The patients re-score the same problems according to performance and satisfaction. (The importance rating does not change.) Changes in performance and satisfaction are calculated by subtracting Time One values from Time Two values.

2.1.5 Follow-up

Together with the occupational therapist, the patient identifies new problems and rates them according to importance, performance and satisfaction.

2.2 Measures of Performance Factors

The COPM is a generic measure that identifies problems in performance. Evaluation of task functioning or performance factors (physical, mental, socio-cultural and spiritual) involves formal testing using psychometrically robust, quantitative measures. The evaluation of mental and physical factors is critical for determining the safety of elderly patients in their environment.

Physical factors include range of motion, strength and muscle tone, co-ordination, balance, endurance, sensation, appearance and pain. Self-care functioning, such as grooming, hygiene, feeding and dressing and instrumental activities of daily living, such as managing the home, medications, meal preparation, transportation and finances are important practical activities assessed by the occupational therapist.

A recent review of occupational therapy outcome evaluations shows that most measure functional aspects of performance (Pollock et al. 1990). There are a number of excellent reviews of functional evaluations from which occupational therapists can select measures of function relevant to the needs of their patients (Goga & Hambacher 1977; Hall 1980; Kerner & Alexander 1981; Kane & Kane 1981; Ernst & Ernst 1984; Granger & Gresham 1984; Staisey 1986; Branch & Meyers 1987; McDowell & Newell 1987; Law & Letts 1989). Two measures used in assessing function in elderly clients are the Instrumental Activities of Daily Living and the Physical Self-maintenance Measures from the Philadelphia Geriatric Centre's Multi-level Assessment Instrument (Lawton 1982). These instruments are psychometrically robust and sensitive to change.

The occupational therapist also evaluates those mental factors applicable to the elderly patient. These factors include cognition, mood, affect, behaviour, perception, thought content, emotional defenses, volition in thought and behaviour, reaction/adaptation to dysfunction, and body image. There are few psychometrically robust, quantitative measures. McDowell and Newell (1987) have reviewed measures of psychological well-being from which the occupational therapist can choose those appropriate to the needs of the patient. In addition, there are several valid and reliable screening instruments of cognition used by health professionals (Kahn et al. 1960; Blessed, Tomlinson & Roth 1968; Folstein, Folstein & McHugh 1974; Pfeiffer 1975; Mattis 1976; Mohs et al. 1983; Teng & Chui 1987). However, the usual methods for an occupational therapy evaluation of mental factors include qualitative evaluations using interviews, projective techniques and/or task analyses.

Evaluation of the socio-cultural and spiritual performance factors assists members of the interdisciplinary team in identifying their roles vis-a-vis the elderly patient. They also provide vital insight into patients' inner motivations and value systems. There are also excellent reviews of measures of social health by McDowell and Newell (1987) and by Kane (1987). One quantitative measure of socio-cultural factors relevant to rehabilitation, developed by the author in collaboration with colleagues, is the Reintegration to Normal Living Index (Woods-Dauphinee et al. 1988). This is a subjective measure of physical, social and psychological function. The underlying assumption for this measure is that rehabilitation relieves discomfort, and promotes functional performance. Eleven items measure the patient's comfort with social and family roles, and capacity. It is a reliable and valid measure of global function, and it is sensitive to change in the patient's level of comfort with social roles.

2.3 Environmental Evaluation

Concurrent with the evaluation of occupational performance and performance factors is the analysis of the patient's physical, social and cultural environment. Examination of the physical environment includes consideration of architectural accessibility, accessibility of communication aids, transportation and safety factors. Staisey (1986) provides a review of two measures that assess the home environment. The Person-Environment Fit (Kahana 1974) and the Person-Environment Incongruence by Elderly with Alzheimer Disease (Kiyak, Small & Sumitani 1985). Both measures are rudimentary and require further psychometric testing.

Examination of the social environment identifies family, friend, neighbourhood and community support persons. Evaluation of the cultural environment includes identification of the patients' and families' role expectations. Information is gathered through an interview with elderly patients and their families.

2.4 Focus of Evaluation

The nature of an occupational therapy evaluation is modified by the health care setting. In acute care facilities, the occupational therapy evaluation is one of triage, sorting and decision making. Time is at a premium, and the therapist immediately assesses those goals important to the patient and family. Evaluation includes examination of physical and mental status, self-care ability, the pre-hospitalization environment and discharge expectations.

In assessment units and in the community, the focus is on the physical, cultural and social environment, including architectural barriers and home safety. The therapist also evaluates patient lifestyles and habits, and functional capacity in activities of daily living, work and leisure.

In long-term care, the occupational therapy evaluation is centred on the patient's quality of life in an institutional environment. The evaluation includes architectural and environmental needs, physical comfort (positioning and seating), the patient's interests, and measures of emotional, physical and cognitive status.

3. OCCUPATIONAL THERAPY AND PROGRAMME PLANNING

Programme planning incorporates intervention strategies based on the patient's stated goals and the priority and feasibility of her/his objectives. The occupational therapist identifies the need for individual and/or group intervention and specifies which therapeutic activities are best suited to the patient, the environment, the goal, the time-frame for goal achievement and the activities of other members of the interdisciplinary team. A theoretical frame of reference, together with the model of occupational performance, also guides the intervention process.

4. OBJECTIVES OF OCCUPATIONAL THERAPY INTERVENTION

Occupational therapy intervention with the elderly patient encompasses the following broad goals: to develop, restore and/or maintain function, and to prevent dysfunction through the use of purposeful and meaningful activity (Health and Welfare Canada and the Canadian Association of Occupational Therapists 1983). Restoration of function means that elderly patients regain, relearn or adapt their functional performance to a maximum competence level. When skills are lost through illness and disability, intervention may focus upon gradually developing new skills for a particular task. The goal of maintenance is to sustain residual capacities so that functional performance is preserved. There is an element of prevention in most of the intervention strategies with the elderly (Wagman & Kennedy 1988).

Occupational therapists use goal-directed, meaningful activity to assist the elderly patient in adapting to chronic conditions, residual disabilities, loss of a spouse or changes in cognitive/perceptual abilities. The active use of the mind and body in learning and performing functional tasks produces a level of internal integration in the elderly patient because of immediate and concrete feedback from both the activity and the occupational therapist. Independent or passive activity rarely achieves this integration. Goal-directed activities are the catalyst for development and strengthening of new behaviours needed to prevent dysfunction. They promote well-being and health and restore and maintain skills in self-care, work and leisure.

Restoration of function and/or maintenance of ability in the elderly patient involve activities such as meal preparation, social pursuits (e.g., playing cards), reminiscence, crafts, self-care activities, carpentry and baking or making items for loved ones. Prevention of dysfunction includes application of energy conservation, work simplification and joint protection techniques such as arrangement of work material, body positioning and splinting in conjunction with activity. Occupational therapy intervention depends on the needs and goals identified by the elderly patient. Thus, choice of activities and intervention strategies are oriented to the individual.

4.1 Focus of Intervention

While the goals of intervention defined by the patient determine the therapeutic strategies, the health care setting also directs the nature of occupational therapy intervention. In the acute care setting, occupational therapy intervention is based on two goals. The first is to prepare the elderly patient for appropriate discharge, which entails aggressive rehabilitation of functional abilities. The second is to avoid excess disability beyond that accounted for by the disease. Occupational therapy intervention incorporates activities to restore and maintain function, to increase orientation and decrease confusion and to maintain independence and socialization. Discharge plans include the appropriate adaptive equipment, proper positioning, family and patient education and applicable community resources.

In the community, occupational therapy intervention strategies focus on activities that promote restoration and maintenance of functional independence, and provide aids and adaptations that allow the patient to remain at home. The occupational therapist provides suggestions on how to adapt the home environment to improve home safety. The therapist also shows the patient how to modify methods of working about the home to conserve energy and to prevent further dysfunction or disability. Intervention includes education of patients and caregivers (family and professional) and liaison with community support services.

In long-term care facilities, occupational therapy intervention services vary according to the elderly patient's needs. There may be individual or group programmes. An occupational therapy programme may include such things as orientation and awareness techniques, sensory stimulation or meaningful activities that restore and maintain independence in daily living. The occupational therapist is also responsible for appropriate positioning and seating, improving cognitive and emotional status, splinting and/or leading groups that foster participation and socialization.

Excellent references for occupational therapy intervention in geriatric medicine are *ROTE: The Role of Occupational Therapy with the Elderly* (Davis and Kirkland, eds. 1986), and *Elder Care in Occupational Therapy* (Lewis, 1989)

5. OCCUPATIONAL THERAPY AND THE INTERDISCIPLINARY TEAM

The unique contribution of occupational therapy to the geriatric assessment team is evaluation of the patient's functional ability in activities of self-care, leisure and work, together with examination of the patient's environment.

The holistic nature of an interdisciplinary geriatric assessment team unifies the evaluation of and intervention planning for the elderly patient. The conclusions and recommendations of the team represent the analysis and integration of all aspects of all the factors impinging on the elderly patient. This sharing of data and opinions derived through individual evaluation processes leads to the most appropriate plans for intervention and/or placement of the patient.

While each team member makes a unique contribution to the evaluation of and intervention planning for the elderly patient, some degree of role overlap must be expected in order to fully meet the patient's needs and goals. Lack of knowledge and understanding of the other professions may lead to stereotypical impressions, but collaboration and interaction among health care professionals favours mutual respect and understanding (Gauthier 1990).

For a team to be effective, all members must be aware of their specific skills and how they complement each other (Health and Welfare Canada and the Canadian Association of Occupational Therapists 1986). Each member, including the occupational therapist, must have a well defined, unique and established professional identity. Each member must be able to communicate, be aware of different values and belief systems, and be able to trust and respect other disciplines (Pearson 1983). Sustained communication, cooperation, recognition and respect for the specialized professional skills and knowledge among the team members avoids conflicts and better serves the needs of the elderly patient.

SUMMARY

This chapter defines the contribution of occupational therapy to the evaluation of and developing intervention strategies for the elderly patient. The Model of Occupational Performance provides the framework for occupational therapy evaluation and intervention.

The occupational therapist has a distinct role in providing appropriate evaluation and intervention strategies for the elderly patient related to functional capacity in self-care, work and leisure. Occupational therapy evaluation of these functions yields a description of the elderly patient's daily living, personal and social performance expectations and actual performance capacity.

The emphasis on achievement through use of goal-directed activity is unique to occupational therapy. Activities enhance the elderly patient's capacity to cope and to maintain his/her independence in the comfort of familiar and safe environments. Intervention strategies provide the elderly patient with the opportunity to practise self-care, work and leisure activities under supervised conditions designed to promote skill development, restore function and/or maintain independence.

The interdisciplinary geriatric assessment team is an effective model by which the occupational therapy evaluation and intervention strategies merge with other professions to serve the needs of the elderly patient. The occupational therapist has an important role to play in an effective and efficient team. Together with other interdisciplinary team members, the occupational therapist contributes to the modification of health-threatening lifestyles by restoring, developing or maintaining healthy patterns of work, self-care and leisure.

"Health is.....a positive concept emphasizing social and personal resources, as well as physical capacity." (World Health Organization 1984). The contribution of each profession in evaluation and treatment of the elderly patient empowers patients to achieve their own best level of health and quality of life.

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THE CONTRIBUTION AND ROLE OF THE PHARMACIST

by

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National Advisory Council on Aging

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INTRODUCTION

Senior citizens use more drugs, both prescription and non-prescription, than any other segment of the population. Much of this drug use is related to the increased prevalence of chronic disease and disability with increased age. Medication use, however, is a two-edged sword; drugs have undoubtedly contributed to both increased longevity and improved quality of life, but they have also caused significant morbidity and mortality. For example, one out of five admissions to a geriatric unit may be partially or solely due to the adverse effects of drugs (Asthana and Sood 1987). Careful examination of past, current, and planned drug therapy must be an integral part of a thorough geriatric assessment. The knowledge and skills of a pharmacist in this aspect of assessment can contribute significantly to the interdisciplinary goal of helping elderly people regain or maintain optimum health and independence.

1. THE ROLE OF A PHARMACIST ON THE GERIATRIC TEAM

The role of a pharmacist on the geriatric team is to identify, prevent, and resolve drug-related problems. The pharmacist's goal is to improve or maintain an elderly patient's quality of life through provision of optimum drug therapy.

Pharmacists are the only health professionals whose training is centered on drugs and their use. They are qualified to assume a primary role in assessing past and current use of prescription and non-prescription drugs, developing drug-related therapeutic goals, selecting and individualizing medication treatment, monitoring and evaluating that treatment, and providing drug information and counselling. Ideally, pharmacists should have direct interaction with the patient so they can work together in performing these functions within the larger interdisciplinary team. The patient, if able, should always be a central participant in geriatric assessment and treatment.

The use of drugs to prevent, ameliorate or cure disease only rarely involves the isolated interaction of an elderly individual and a pharmacist. Most medical problems are discussed with a physician and much of the drug therapy is prescribed. In most institutions, including geriatric assessment units, medications are administered by nursing personnel. This may also occur in the community. Both physicians and nurses observe and evaluate the results of drug therapy in addition to that of other treatments and interventions, and both often provide some medication information and counselling. The role of a pharmacist will, therefore, frequently overlap with the roles of physicians and nurses when it comes to drug therapy. This overlap offers the greatest opportunity for interdisciplinary cooperation, consultation and communication to ensure that a patient's drug therapy is contributing to enhanced quality of life. It also provides an opportunity for improved patient drug education through repetition and reinforcement of drug information by three different health professionals when goals are set.

2. INITIAL ASSESSMENT OF DRUG THERAPY

A thorough and complete medication history is a necessary component of any data base used for a geriatric assessment. Pharmacists traditionally obtain more information about past and current prescription and non-prescription drug use than do other health professionals. Pharmacist-conducted histories also obtain clinically important medication-related information that is missed in other interviews. Various forms and questionnaires have been developed for obtaining these histories, and these typically provide a more structured and complete review than that normally found in a patient chart. A Review of Systems method for taking medication histories has been found particularly useful (Badowski et al. 1984; Truitt et al. 1982).

A basic medication history should include the following:

- past and present prescribed drug therapy, including drug name, dose, dosing frequency and duration of therapy;
- compliance with prescribed drug regimens;
- non-prescription drug use;
- adverse drug reactions;
- drug allergies.

This information may or may not be easy to obtain from a patient. Other methods for gathering the data often have to be used, such as identification of medications obtained from the individual's home, interviews with care givers, review and follow-up of referral information, and personal contact with other pharmacists or physicians.

Once a medication history is obtained, the pharmacist then examines this information in relation to the patient's current medical condition and drug therapy. A thorough assessment should consider:

- possible adverse drug reactions and drug-induced disease;
- possible or potential drug-drug, drug-food or drug laboratory test interactions;

- drug dependency;
- drug resistance;
- failure of therapy due to noncompliance and potential reasons for the noncompliance;
- understanding of the drug therapy by the patient or caregiver;
- habits or practices that may lead to drug-related problems.

All potential problems and appropriate recommendations are then communicated to the physician and possibly to other members of the interdisciplinary team. Nurses, social workers, nutritionists and occupational therapists could all play a role in solving problems identified through assessment.

3. PATIENT PHARMACOTHERAPY MONITORING

Patient pharmacotherapy monitoring (PPM) comprises:

> ...those activities involved in the pharmacists' effort to optimize a patient's drug regimen. This means assuring appropriate, safe, efficacious and economic drug therapy for the patient (Canadian Society of Hospital Pharmacists 1990).

PPM in its ideal form involves the pharmacist in the selection of drugs, their doses and their duration of use. The pharmacist is proactive in the team and monitors the effects of therapy, using subjective and objective parameters, evaluates the risks and benefits of the therapy, and recommends appropriate changes.

At a more common level of PPM, the pharmacist plays a reactive role. Elements of therapy that are reacted to or reviewed are:

- appropriate indications;
- appropriate dose and dosing interval for that particular patient, i.e., based on an individual's age, sex, weight, renal function, etc.;
- appropriate duration of therapy;
- correct dosage form;
- correct route and method of administration;
- drug interactions;
- contraindications or precautions related to disease state;
- drug-induced adverse effects.

Comments and suggestions concerning drug therapy are directed to the elderly person, caregiver or health professional.

The basic level of PPM is not a true clinical activity, but is the building block on which the other, more clinical, activities of a pharmacist are built. This level consists of the creation and monitoring of a central patient medication profile and is described as drug order review. Elements monitored at this level are:

- drug dose and interval (for an average population as opposed to a specific individual);
- allergy status;
- drug duplication;

- potential drug interactions;
- drug administration considerations;
- formulary considerations.

Once again, contact is made with a patient, caregiver, or health professional, where appropriate. This level of PPM can also serve as a triage method for identifying those individuals who may benefit from the more specific and personal evaluation of a higher level of monitoring. If a pharmacist is not consistently involved with a geriatric assessment team, the basic drug order review can be used by a pharmacist, or potentially by a physician or nurse, to identify cases where pharmacy assistance would be of special value.

The level of PPM performed will usually dictate the type and style of monitoring form used. The different elements to be monitored will require collection and evaluation of different types of data. For example, drug order review does not use patient-specific information such as weight and creatinine clearance, whereas higher levels of PPM do. The latter requires a form on which this data may be recorded, but the former may require nothing but the basic patient medication profile. Individual pharmacists may also develop their own personal monitoring forms or instruments based on experience, training and expertise. Most forms do not become a part of a patient's record or chart, but some may be both a working document and a permanent record of the pharmacist's recommendation, e.g., a pharmacokinetics consult.

Necessary resources for PPM also vary with the level of monitoring performed. Higher levels of PPM require a higher pharmacist/patient ratio and hence a greater cost for pharmaceutical care. However, some literature indicates that:

- drug treatment involves risk;
- a significant amount of drug-induced morbidity and mortality is preventable;
- the cost of such morbidity and mortality may be substantially greater than the cost of the drug treatment itself;
- pharmaceutical services can improve outcomes and reduce costs of care by preventing, detecting and resolving drug-related problems that lead to drug-related morbidity and mortality (Hepler and Strand 1990).

In essence, the increased costs of additional pharmacy staff can be offset by a decrease in the costs of drug-induced morbidity and mortality.

4. SELF-MEDICATION PROGRAMMES

Institutionalized elderly rarely have the opportunity or freedom to administer their own medications. This tends to rob them of one aspect of independence. It may also actually increase their risk of reinstitutionalization following a return to independent community living.

Self-medication programmes allow the institutionalized individual to regain whole or partial control over medication administration while still living in a controlled environment. If the person is to remain in this environment, there is at least some semblance of returned independence. If the person is to return to the community, a self-medication programme can reveal how well the patient will be able to handle drug therapy at home, as well as offer training or retraining in an important aspect of independent living. Since it is known that many of the elderly have difficulty managing drug therapy at home it is unfortunate and inconsistent that this responsibility is assumed for them while they are institutionalized, and then returned to them upon discharge. It is not surprising that many patients return to the institution because of the effects of drug noncompliance.

Self-medication programmes are an ideal example of how patients and health professionals can work together to promote health and independence in the elderly. Key participants are usually the patient, nurse and pharmacist, but physicians or other professionals may take a more active role, depending on the design of a programme, the specific needs of the patient, and the availability and interest of health care personnel. An example programme follows. (Names of health professionals in brackets indicate that one or more of the disciplines may perform the given activity.)

EXAMPLE OF A SELF-MEDICATION PROGRAMME (SMP)

Team considers patient to be a good candidate for SMP

↓

SMP explained to patient (nurse/pharmacist/physician

↓

Patient Consents

↓

Patient is assessed:

- ability to open different types of container
- read different print sizes
- distinguish different tablet colours, etc.

(nurse/pharmacist/occupational therapist)

↓

Physician writes SMP drug orders

↓

Pharmacy staff fills orders using assessment information

↓

Pharmacist counsels patient and leaves information on drugs

↓

Patient administers and records use of own drugs

↓

Nurse and pharmacist monitor progress and prepare assessment

↓

Patient is discharged

↓

Follow-up

5. PATIENT COUNSELLING AND FOLLOW-UP

Medication histories, patient pharmacotherapy monitoring, and self-medication programmes all assist the pharmacist and other members of the assessment team in identifying and solving drug-related problems. Armed with the information gathered from these activities, the professional can plan a post-assessment programme of drug therapy that is rational, as simple as possible, and uniquely designed to meet both the therapeutic and functional needs of the elderly individual.

If the drug therapy programme is to succeed, it is imperative that the patient or caregiver receives adequate instruction and counselling on the prescribed drugs and their use, and agrees to "buy into" the plan. Medication noncompliance (both over-use and under-use) can negate any benefits achieved through drug therapy assessment and rationalization. The prescribed drug therapy may be ideal, but if the patient does not take or receive it appropriately, all the efforts to establish it will be of little value.

Emphasis on overcoming visual limitations, impaired manual dexterity, impaired cognition, etc., must be made, often with interaction of other team members to clarify solutions and develop interventions.

Counselling patients about drugs and their use is a well established professional responsibility of a pharmacist. Physicians and nurses may also provide information, and in some cases nurses may assume specific patient-education responsibilities that include drug therapy, e.g., diabetic education specialists. The primary source of drug information, however, is still the pharmacist.

Information that patients or care givers should receive about their medication includes:

- name and strength;
- purpose;
- when and how to take it;
- how long to take it;
- what side effects it may cause, and what to do if they happen;
- what food, alcohol, prescription, or nonprescription medications to avoid when taking this prescribed medication;
- storage.

This amount of information is difficult for most people to remember and it is recommended that written material accompany verbal counselling. It is important to supply this material in a form that can be understood and read, e.g., at an appropriate reading level or in large print if necessary. It is also important to encourage questions, supply a phone number, and suggest that the patient or caregiver contact the professional if questions arise later or if they need clarification of any of the information.

Pharmacists may also assist patients and caregivers in designing and preparing special containers and compliance aids. Simple, home-made devices and reminder cards may be used or commercial products supplied. The greatest success will always be achieved if the patient or caregiver can work with the pharmacist in deciding what will best suit their unique needs. Other health care professionals can offer valuable assistance and reinforcement.

6. DRUG INFORMATION AND EDUCATION

An indirect method for a pharmacist to have a positive effect on geriatric assessment and treatment is to serve as a source of drug information and education for other members of the team. There is a vast body of drug literature that can be accessed, evaluated and summarized by a pharmacist so that other health professionals can use it in their practices. Geriatric assessment and treatment is a team effort, and that effort can be improved by the sharing of knowledge and expertise.

SUMMARY

Geriatric patients come to the attention of assessment units because they have or are developing health-related problems that threaten their general well-being and independence. Generally, these problems are multi-factorial, complex, and require the expertise of more than one health professional. Drugs are often a contributing factor in both the problems found and the treatment planned. The pharmacist's role is to identify, solve and prevent drug-related problems in cooperation with the patient, caregiver and health professional team. The goal is to achieve an optimum quality of life for the elderly individual.

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THE CONTRIBUTION AND ROLE OF THE NURSE

by

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INTRODUCTION

Gerontological nurses assume a central role in the interdisciplinary work of a geriatric assessment and treatment team. This paper will outline the role of the gerontological nurse on the team, highlight unifying elements that lead to effective team functioning, and describe specific contributions of gerontological nurses to the well-being of senior citizens.

In preparation for this paper, nurses working in geriatric assessment across Canada were contacted. The ideas to follow are a synthesis of the experiences of Canadian gerontological nurses, together with the geriatric, gerontological and nursing literature.

1. NURSING PRACTICE

The scope of nursing practice includes promotion of health, maintenance and restoration of health, prevention of illness and disability, alleviation of suffering, and ensuring of a peaceful death when life can no longer be sustained (Canadian Nurses Association 1980). "As a specialty gerontological nursing is concerned with the interrelatedness of health and the environment in relation to older people. Nursing knowledge of health promotion, disease prevention, care of the ill, family dynamics, community resources and the principles of rehabilitation and palliation is combined with knowledge of normal aging and the multiple pathologies often associated with the older person, to assist older people to maintain a state of health. An essential skill of gerontological nurses is the ability to develop sustaining interpersonal relationships with older persons that assists them to cope with physical, psychosocial, sensory, cognitive and spiritual losses." (Canadian Gerontological Nursing Association 1986, p. 6). This broad scope for gerontological nursing practice crosses the boundaries of the community, acute care and longterm care settings, and offers a conceptual framework that facilitates a holistic approach to the health concerns of the older adult.

2. THE NURSE'S ROLE IN GERIATRIC ASSESSMENT AND TREATMENT

Nurses in the specific area of geriatric assessment and treatment work with frail older adults whose complex health problems require the involvement of an interdisciplinary team. Given the vulnerability of these clients, it is often necessary for the nurse to actively promote the senior's sense of mastery over the environment. This is accomplished by creating an environment where the older person can have an increased sense of control and is provided with choices for decision making and action. The nurse acts as an advocate when the senior's rights are threatened. Encouraging the frail senior to take initiative in activities of daily living (A.D.L.), the nurse carries out only those tasks of which the senior is truly incapable. In this context, health teaching is an integral part of nursing practice as the nurse seeks to empower the older adult and his/her family. Information specific to the senior's particular health situation may include normal aging processes, particular disease processes, treatments, therapeutic interventions, and relevant community health resources.

Within the context of the interdisciplinary team, nurses assume a variety of roles that capitalize on the breadth of nursing practice. These include a health surveillance role, a triage or screening role for referrals made to the team, and a coordinating role.

2.1 Health Surveillance

To effectively carry out the health surveillance role, a nurse must be available and knowledgeable. Certainly, in an acute or continuing care facility, it is the nurse who is present 24 hours a day, 7 days a week. To illustrate the breadth of nursing knowledge, the following examples describe ways in which a nurse's knowledge overlaps with the knowledge base of other health professionals on the team.

A nurse employs physical assessment skills to monitor the physiological functioning of a senior. Knowledge is required to distinguish between the effects of normal aging and significant pathological changes. When interpreting these findings, nursing judgement is required to determine whether nursing intervention or medical intervention is indicated. In an emergent situation, the nurse must be able to intervene until a physician is available.

It is clear that a social worker has specialized social assessment and treatment techniques; however, in responding to the typically complex needs of the frail senior, the nurse must possess the skills required to assess and intervene in the context of the senior's social situation. For example, the social situation may be a significant contributing factor to presenting functional disabilities. Conversely, it may be that the senior is coping primarily because of a strong network of social support. Nursing interventions will be effective only to the extent that the influence of significant others is assessed and considered during nursing care planning.

Mobility is basic to daily functioning. While the physical therapist has expertise in this area, the nurse requires adequate knowledge and assessment skills to assure safe mobilization of an older adult. Similarly, the occupational therapist has some well developed assessment and treatment techniques that address issues of impaired functioning in A.D.L. Nevertheless, the nurse regularly assesses and responds to the basic functional needs of bathing, dressing, elimination and feeding.

Although a pharmacist has an indepth knowledge of drugs, their effects, and their interactions, a nurse has a basic understanding of the drugs that he or she administers to clients in the assessment and treatment unit. It is the nurse who is aware of which medications the older adult actually takes and with what effect.

A dietitian gathers specific and detailed information regarding an older adult's nutritional status; however it is a nurse who is available to observe actual dietary intake and who hears about various food preferences. The nurse has the responsibility to identify whether nutritional intake and status are within normal limits or whether there is a need for a thorough assessment by a dietitian.

2.2 Triage

Nurses in geriatric assessment centres across the continent are screening referrals for assessment and treatment (Conley 1986). By using specific criteria and by gathering bio-psychosocial data, the nurse is able to determine whether the older adult is a candidate for geriatric assessment or whether referral to another health service would be more appropriate. The nurse may go on a preadmission home visit or, alternatively, the screening process may occur with a series of strategic telephone calls.

2.3 Coordination

On many geriatric assessment teams across the country the nurse assumes the role of coordinator. It is the nurse's broad perspective of the client's situation that enables the nurse to be the "integrating force" on the geriatric assessment and treatment team. Furthermore, it is the presence of the nursing team around the clock that keeps the nurse at the center of most communication flow. Although the structures and titles will vary from one facility to another, designated nurses usually are assigned responsibility for the overall coordination of the care of specific clients. Nurses functioning in this role are sometimes called primary nurses or case managers.

2.4 Categories of Nursing Personnel

Nurses' roles in screening, health surveillance, and coordination have just been described. The extent to which these roles are carried out by a particular nurse varies according to the nurse's level of educational preparation and his/her position within the health care system. Specific titles will vary from province to province and sometimes from health care facility to health care facility.

The registered nurse (R.N.) has earned either a diploma at college or a degree at university. The R.N. is able to assess, plan, implement and evaluate nursing care. This nurse may act in the capacity of a primary nurse or case manager and may delegate specific nursing tasks to a nursing assistant. The

Registered Nursing Assistant (R.N.A.), Certified Nursing Assistant (C.N.A.) or Licenced Practical Nurse (L.P.N.) has earned a certificate at a vocational school and works under the supervision of the R.N. Together, they provide day-to-day nursing care. The Nursing Unit Manager (or Head Nurse), usually prepared at either the baccalaureate or masters level, is responsible for ensuring the delivery of quality nursing care to meet the needs of elderly persons. This is accomplished by employing appropriate numbers of qualified nurses and nursing assistants interested in the care of older adults, and by budgeting for sufficient equipment, supplies and clerical staff. The Clinical Nurse Specialist, prepared at the masters level, works collaboratively with the Nursing Unit Manager to maximize the quality of nursing care. This is accomplished through clinical consultation for specific older adults and their families, educational programmes related to the nursing care of older adults, development and implementation of policies, procedures and new programmes to enhance nursing care, and integration of relevant research findings into clinical practice (Mantle 1987).

3. UNIFYING ELEMENTS CONTRIBUTING TO TEAM ACTION

What are the structures that are necessary to facilitate an effective, efficient and unified team process? If a health care team is to function effectively, it is essential that there be meaningful communication, mutual understanding, respect and recognition of differing strengths among members. By definition, an interdisciplinary team is more than a group of health professionals each of whom is independently treating some isolated aspect of illness. Ideally, team members share common, well defined goals, define their working relationships as interdependent, and share responsibility for leadership and the facilitation of team tasks (Newman & Boissoneau 1987).

3.1 Team Building

A geriatric assessment and treatment team does not materialize without some deliberate effort expended to build the team. For this to be accomplished, an active and ongoing system is required to address team goals, priorities for treatment, team members' role expectations, leadership responsibility, decision making, and conflict identification and resolution (Newman & Boissoneau 1987). Some teams in Canada meet regularly to address issues related to team building.

3.2 Team Conference

An important vehicle for interdisciplinary teamwork in geriatrics is the weekly team conference. At this meeting, core and extended team members review their assessments of each client and pool information to develop a coordinated and comprehensive treatment plan. The team conference offers a source of continuity and structure in the accomplishment of treatment goals, and establishes a regular forum in which interprofessional differences in treatment priorities can be negotiated. In several Canadian geriatric assessment centres, a senior gerontological nurse, either the Nursing Unit Manager or the Clinical Nurse Specialist, assumes the role of chairing the team conferences. In other centres, other team members may chair conferences regularly or in rotation.

3.3 Standardized Assessment Instruments

Use of standardized assessment instruments on a geriatric assessment team provides a common intradisciplinary and interdisciplinary language.

Although scores on standardized assessment instruments cannot replace clinical judgement, knowing how a senior scores on a mental status test or on an A.D.L. scale can quickly sketch the background for a picture that will emerge as the assessment is completed. In addition to providing baseline data, standardized instruments can be clinically useful when repeated to objectively measure treatment outcomes.

Nurses working in geriatric assessment across the country are using standardized assessment instruments in the course of their clinical practice. In several settings, these instruments are incorporated into the nursing data base (or nursing history) and guide the nursing assessment at the time of admission to the unit. Such baseline data aid in identification of undetected problems (Miller et al. 1990) and are shared with other team members.

Bathing, dressing, toileting, and feeding are activities that nurses monitor routinely and for which assistance is offered, as necessary. Since nurses are present to observe an older adult's actual performance in these activities, it is a logical next step for nurses to use A.D.L., scales to quantify and document what they see. The instruments assessing basic A.D.L., which are reportedly used by Canadian gerontological nurses, include the Katz Index of A.D.L. (1976), the Lawton and Brody Physical Self-Maintenance Scale (1969), and the Barthel Self-Care Index (1965). All of these measures have had psychometric testing completed in geriatric populations.

It has been demonstrated that an individual's own assessment of function can vary considerably from that of a family member or a health care professional. Rubenstein et al. (1984) found that an older adult's self-rating of ability is often higher than a rating of that adult by a nurse, while a family member often rates the senior's ability lower than the rating by the nurse. This finding emphasizes the importance of considering physical performance measures rather than self or proxy reports to assess function (Guralnik et al. 1989). Nurses are present at the bedside to observe actual physical performance.

Cognitive impairment is a common presenting problem in frail elderly persons who require geriatric assessment. The mini-mental state exam (Folstein et al. 1975) takes approximately 10 minutes to complete and offers the nurse a standardized method of gathering some important nursing information. Furthermore, this instrument has sufficient sensitivity that it can be used repeatedly to quantify clinical changes in mental status (Schmitt et al. 1989). Although the mini-mental state exam is useful in detecting moderate cognitive impairment, it may not identify minimal impairment. Other limitations, which are common to most mental status assessments, include the influence of educational levels, language (non-English or non-French) and communication disabilities. When these limitations are taken into consideration, the mini-mental state exam is a useful clinical tool.

3.4 Aftercare

When the assessment and treatment of the older adult is about to be terminated, it is essential that the team's findings and recommendations be clearly communicated to the primary care professionals. From a nursing perspective, it is the community-based nurse who will be assuming the health surveillance role for frail elderly persons when they return home. Many acute care centers have homecare nurses or community liaison nurses available to transmit information to the home visiting nurses. In some situations it has been found to be more effective to have the nurse, who acts as the case manager, initiate direct contact with the home-visiting nurses (Jowett et al. 1988). Whatever the process, it is crucial that relevant information is clearly passed on from the geriatric assessment team to the community-based professionals who will pick up where the team left off.

Some geriatric assessment and treatment teams provide a follow-up service that goes beyond the transfer of information to the primary care professionals. Usually this involves a clinic appointment with the team physician (although occasionally with a team nurse). When such aftercare occurs, caution must be exercised so that there is no role confusion and misunderstanding between the primary health care professionals in the community, and the geriatric assessment team members. Nevertheless, the follow up/feedback for the assessment team is necessary to learn of the success of their intervention strategies.

4. CONTRIBUTION TO THE WELL-BEING OF SENIORS

To what extent does the process of care in geriatric assessment and treatment yield outcomes for older adults that contribute to their well-being? Literature reporting the effects of geriatric assessment include outcome measures, such as improved diagnostic accuracy, reduced medication, improved functional status, improved affect or cognition, improved placement location, reduced use of nursing homes, and reduced use of hospital services (Rubenstein et al. 1989). However, these outcomes do not necessarily influence the perceived well-being of senior citizens. Findings from a recent study by Caradoc-Davies et al. (1989) suggest that there is a discrepancy between health professionals' and clients' perceptions of benefit from admission to a geriatric assessment and rehabilitation unit. The health professionals (physicians and nurses) had significantly higher perceptions of benefit than did the clients and their caregivers. Client perception of benefit was positively predicted by fewer problems with companionship and communication with others.

Although the literature has consistently identified perceived health as one of the variables most highly related to a senior's sense of well-being (Larson 1978; Medley 1976), social support is also an important variable. In a sample of community-dwelling elderly, nurse-researchers found that psychological well-being and perceived health were both strongly associated with social support (Ploeg et al. 1989).

Nurses recognize the significance of social support for the well-being of both older adults and their caregivers. Recently, in a randomized clinical trial, some prominent Canadian gerontological nurses reported the outcomes of family caregiver support for the home management of seniors suffering from irreversible dementia (Mohide et al. 1990). The experimental nursing interventions resulted in a clinically important improvement in quality of life for the caregivers.

Health promotion is an integral part of the nursing that takes place on geriatric assessment units across Canada. On these units, health education groups are organized and facilitated by nurses (Anderson 1990). Nurses write health columns in local seniors newspapers and have produced information pamphlets on topics related to physiological changes associated with aging and common health problems of older people (Lauridsen 1989). Research has been conducted by nurses to determine the most effective ways for seniors to learn about health-related issues (Kim 1986).

Gerontological nurses appreciate the importance of maximizing ability to function and maintaining independence in the face of diminishing reserves. One nurse-researcher has demonstrated that, as functional dependency increases, a senior's morale and sense of control are reduced (Ryden 1984). Nursing strategies to promote functional independence and a sense of well-being are numerous and range from reminiscence (Kovach 1990) to bladder retraining (Greengold et al. 1986).

SUMMARY

Gerontological nurses are essential contributors to the interdisciplinary team-work that takes place in geriatric assessment and treatment. Whether nurses are situated in the community, in acute care, or in continuing-care settings, the broad nursing perspective makes it possible to address the complex and interacting needs of a frail older adult. By assuming a variety of roles, nurses facilitate an effective team process that can contribute significantly to the well-being of senior citizens.

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THE CONTRIBUTION AND ROLE OF THE PHYSICIAN IN GERIATRICS

by

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May 1991
National Advisory Council on Aging

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INTRODUCTION

Assessment and treatment of the elderly is complex. It depends on evaluation of functional, social and psychological aspects, in addition to and in conjunction with the assessment of medical disease. These assessments are dependant upon a sound knowledge of the changes that occur with aging in each of these domains. The aim of geriatric assessment and treatment is often to set up a management plan to improve or maintain function and a sense of well-being. This requires a realistic approach, as the diseases often are not curable. It is clear that this type of comprehensive assessment and treatment benefits from an interdisciplinary team approach.

1. ROLE OF THE PHYSICIAN

The role of the physician ranges from acute inpatient care to post-hospital ambulatory home care as well as long-term care for both the institutionalized and the independent elderly. In all of these services, emphasis is placed on knowledge of the aging process and special health needs of the elderly population, assessment of functional capacity and team-approach to health care.

2. TYPES OF PRACTICE

2.1 Outpatient Setting

In the outpatient setting, the patients most frequently seen are those with multiple problems and/or behaviourial problems, including memory loss and confusion. A substantial number of these patients have, in addition, iatrogenic (any disease condition occurring as the result of treatment by a physician or surgeon) or drug-related problems, depression, recurrent falls, incontinence or previously undiagnosed metabolic or endocrine problems.

2.2 Geriatric Assessment Service

In the geriatric assessment service, the purpose is usually to give consultation on patients referred by family physicians, long-term care facilities, families, or other health care professionals. The geriatrician at this level also provides inpatient consultations to house staff and attending physicians. Often, significant but treatable problems that have presented atypically may be found. The role of the physician in geriatrics in this context is that of a consultant and/or a resource to family physicians and other specialists in medicine.

2.3 Geriatric Screening or Disease Prevention

In the geriatric screening or disease-prevention area, such as seen in the geriatric outreach assessment team, the geriatrician identifies and treats disease or health-related problems of the elderly people who either avoid or have no access to health care. For example, atypical presentations of disease and drug reactions emphasize the need to be knowledgeable about pathophysiological and pharmacological changes with age. The problems that arise as a result of economic instability or psychosocial losses in old age require not only a special sensitivity on the part of the physician but knowledge on the part of the appropriate health team members. Such a clinical setting, i.e., outreach assessment, provides the opportunity to stress the importance of the patient's functional capacity in addition to the underlying diagnosis.

2.4 Home Care Level

At the home care level, the physician in geriatrics can act as a guide for provision of quality care for homebound patients recently discharged from hospitals, and can offer rehabilitation, counselling and nursing care, especially if these patients can be maintained in their homes. In such a setting, the physician can prescribe intervention and prevention techniques as well as identify some key factors in the environment of the patient that can be influencing his/her health.

The physician ideally should be trained in clinical research methods so that new knowledge can be developed and applied. An important problem area is drug interactions in patients who are likely to be very sensitive to drugs and are usually getting multiple drugs. The physician should also be interested in and support basic studies in gerontology.

Although most drugs are used on the elderly (50% of drugs are taken by those over 65), there are few studies documenting the effects of multiple drugs on the elderly resulting in multi- system failure.

2.5 Residential Facilities

The physician in geriatrics, at the level of nursing homes or other residential facilities helps coordinate services to meet the needs of these clients. There is a need for a continuing relationship with all of these institutional facilities as well as with the assessment unit and outreach activities in order to facilitate care planning and maintain the clients in such settings.

2.6 Teaching

Teaching in geriatrics should also be a priority for the physician in an academic setting or as chief of a department, as there is a paucity of geriatric training of all health care workers.

2.7 Research

Research is another important responsibility for the physician in geriatrics. It focuses, among other things, on applied, client-oriented clinical research projects, programme and/or service implementation and outcome evaluation. Establishing continuing health care needs with longitudinal studies involving the well and impaired is another worthwhile area of research. Such studies focus on identifying the long-term care needs of the community by stratified age samples in order to predict both present and future needs; identifying and examining how socioeconomic factors, such as ethnicity, affect the perception of aging and health care needs of the community; and developing valid and reliable measurements of needs (e.g., expected utilization versus demand versus service utilization).

2.8 Thanatology

Thanatology, or the area of dying and death, needs to be addressed by the physician as part of his/her role. This is closely linked to the ethical issues surrounding care of the elderly, including such topics as living wills, advanced directives of care and decision making for personal care.

2.9 Family Medicine

In Canada, the family physician occupies a pivotal position in the care of the elderly. The evolving specialized services recognize and support the role of the primary-care physician, since geriatric specialists do not normally engage in primary care. It is recognized more and more that close to 50% of a family physician practice is dedicated to the care of the elderly in any given community. Most older persons benefit from contacts with their health care practitioner, usually the primary care physician. This interaction is based on the doctor/patient relationship, which, as a principle, incorporates the concepts of continuity of care and comprehensiveness of care. This includes caring for a patient in the context of the family and society and also functioning as a patient advocate. The continuous relationship with the patient gives the physician access to insights not otherwise available and provides the opportunity to follow and study disease processes over long periods of time. This is readily applicable to a geriatric clientele for a family practitioner.

Family medicine and family practitioners involved in the care of the elderly are community-based. The context in which patients are seen may include office, hospital and home. In addition to acute and life-threatening disease, there is a high prevalence of chronic illnesses, emotional problems and transient disorders. The practice is significantly influenced by community factors. The physician must be able to deal with any problem a patient presents. In a geriatric population, many chronic disorders intermingled with intercurrent illnesses and hidden problems are frequently encountered, as are acute illnesses.

The family physician in care of the elderly frequently acts as a resource from within his/her own practice. The physician must be able to apply knowledge and skills efficiently, including the ability to evaluate new knowledge and its relevance for practice in the community. An awareness of one's own limitations, and a knowledge of and willingness to draw upon community resources, such as consultants, allied health professionals and other agencies, are very important in care of the elderly and the disabled.

Since family physicians are at the heart of the day-to-day reality of long-term care, they are committed and sensitive to the long-term care needs of the elderly and the disabled.

The family physician likes to assert the importance of screening and prevention in the long-term care of the elderly in the community. Vigorous evaluations of epidemiological studies of the various screening techniques have been carried out by a national task force under Periodic Health Examination to arrive at a judgement on which techniques are truly preventative and cost-effective. Blood work, pap tests, self-breast and self-testicle examinations, mammography, lifestyle counselling and routine physical examinations are included in this. Careful thought must be given to establishment of screening and prevention programmes in the long-term care of the elderly.

In the relationship between family physicians and community services or agencies, creation of effective lines of communication between the various health and social service professionals is critical if care for the elderly and the physically disabled is to be optimized. The present relationship between physicians and placement coordination services and home care programs is another area where communication is beneficial to patient care and appropriate placement.

In facilitating access to care, hospitalization and/or institutionalization can be avoided by the use of community services for such problems as isolation, depression, decreased mobility, illiteracy and decreased vision and hearing. All of these are significant obstacles to access to care for the elderly. Family physicians caring for the elderly are in the position to emphasize the importance of reaching these people through community resources and agencies in order to avoid future morbidity or premature mortality.

Advanced directives of care are of particular importance in the care of the elderly. Health care costs soar in the last years of life. Sometimes this is totally appropriate and in keeping with the desires of the individual involved. However, heroic measures are sometimes undertaken when the patient (under different circumstances) would have refused them. At times, aggressive medical therapy approaches assault. Yet, without an advanced directive, it is done by default.

Although living wills and advanced directives of care are still being established and have not achieved legal status, there is public support for this concept. Family physicians, by discussing these issues with their patients, can facilitate the logistics of this process and increase the availability of these directives of care. The family physician in emergency situations, although sometimes unaware of a client's visit to an emergency room in a crisis or high-risk situation, can prevent hospitalizations or further anxieties by being contacted by the hospital about the patient and by discussing with his/her colleagues or other health care professionals the clinical issues of concern.

The family physician provides continuity of care as well as examining the well-elderly and promoting the family unit that supports older members of the family. The family physician addresses issues concerning health promotion and utilization of community resources, and favours the interdisciplinary approach to care. The family physician further supports the caregiver, deals with ethical issues, at the time considering the values of the older adult. By managing day-to-day problems, including multiple stable diseases, the family physician can practise screening and prevention and avoid fragmentation of patient care. He/she can also play a major role as patient advocate.

3. THE UNIFYING ELEMENTS THAT CONTRIBUTE TO EFFECTIVE TEAM ACTION

Older persons do not always need or benefit from contact with health practitioners above and beyond the primary care physician. However, as age advances and as physical and mental disabilities develop, the perspective and skills of other health professionals often yield benefits. Since no individual practitioner possesses all the requisite knowledge and skills to manage all of the problems of the frail elderly, it is vital that physicians refer to and interact appropriately with other health professionals in addressing the multiple and complex needs of such older patients. Under what circumstances is a multidisciplinary team more advantageous than mono-disciplinary (medical) care?

Dr. Duncan Robertson's paper on health teams, presented at the invitational conference, "Towards Exemplary Primary Care for Seniors" held at Chateau Montebello in the Province of Quebec in October 1990, addresses this: "When the perspective of other health disciplines are vital to a comprehensive understanding of a patient's health or social needs; when information sharing is of mutual benefit; when decisions regarding future actions (treatment, rehabilitation, facility placement or community services) must be negotiated rather than prescribed; when various medical and social interventions must be coordinated; when interaction between patient, caregiver, health care workers and professionals involved is essential. The vehicle for channelling this interaction is the health care team."

Team functioning is *multidisciplinary* when representatives from several disciplines meet, share information and present to other team members their analysis of the situation and the interventions they propose or have implemented independently. *Interdisciplinary* team functioning, however, involves a greater degree of collaboration among team members. The team together identifies and analyzes problems, plans actions and interventions and monitors results.

The physician involved in team work in the care of the elderly has to recognize the complexity of problems presented by frail older patients and the fact that these require the perspective of several health disciplines on the patients' physical and mental health, locomotor and functional capacity and social interaction. The physician can help, as a team member, to facilitate the priorization and integration of various investigative, rehabilitative and therapeutic interventions and to form a vehicle for case management when other case managers are unavailable or when problems are so complex that the case management function is best conducted by a team.

Another challenge for the physician in the practice of caring for the elderly is interaction with established teams or creation of *ad hoc* teams to solve problems and to plan care. The geriatrician and/or the family physician involved in the care of the elderly ideally provides continuity of care through longitudinal contact with the patient, whereas the agencies and the programmes necessary to maintain the patients at home are involved for shorter periods or during specific phases of care. Thus, the physician must relate to several established teams at different points in the care of the patient. The physician's challenge is to interact with and attempt to coordinate such teams.

Access to the health record and related information concerning the care of the elderly presents another challenge. The physician can facilitate this access through information sharing with other team members, especially given the complexity of the frail elderly patient, the multiple physical and mental health problems, the complicated drug regimen, the functional disabilities and all the other number of professionals, services and agencies involved with care of the elderly.

In the case or care management area, the physician frequently plays a coordination role. Although in some provinces physician referral is required for admission to a facility or to Home Care or other support programs in the community, it is not always the physician who initiates this request. Still, the physician can coordinate service referrals in many instances. The physician, along with the long-term care assessors or case managers, can have a workable method of coordination in the care of frail elders in the community.

The physician also can interact with specialized geriatric services, i.e., the specialist geriatrician. The family physician may refer a patient to the geriatric specialist but continue to provide concurrent or continuing care as primary care the frail elderly as well as with other members of the health care team and the patient.

4. HEALTH EDUCATION AND PROMOTION FOR SENIORS AS A SPECIFIC CONTRIBUTION FROM THE PHYSICIAN IN GERIATRICS

Health promotion is to be viewed as an integral part of a comprehensive spectrum of care of the elderly, which includes prevention, diagnosis, treatment and management within the disciplines of geriatrics and family medicine. The physician's involvement in health education and promotion in the care of the elderly can encompass many topics that concern wellness, such as medical self-care, accident prevention, and treatment of coughs and colds; making the most of a visit to a physician; medications helping and harming; thoughts and feelings about cancer; coping with death and loss; community resources and how to use them; leisure; personal safety; exercise, nutrition and medication in arthritis; using the health care system; food safety; managing stress; and sexual needs.

Physicians in care of the elderly will play a vital role in promoting health and educating seniors in the areas of living wills and medical ethics. This can be done either in long-term care facilities and Home Care programmes or in skilled nursing facilities. The house-call can become an integral part of promoting health and education by providing opportunities to assess home environment and promote healthy behaviours in the elderly population. These are basic and should be present in any one setting as an approach to health promotion and education as well as to disease prevention. They are aimed at permitting the older individual to cope and to maintain functional independence and autonomy.

permitting the older individual to cope and to maintain functional independence and autonomy.

SUMMARY

In conclusion, the geriatrician and the family practice physician have special knowledge of and interest in aging and its complex management. The medical problems presented by the elderly, such as falling, confusion, incontinence, homeostatic disturbance and iatrogenic disorders require special skills and techniques. Additional special skills are required to communicate with the geriatric patient and the family to incorporate multiple recommendations of different sub-specialists into a total patient treatment plan and to coordinate community resources and social agencies. A willingness to listen and then to counsel is also important. Finally, one must have the ability to guide and direct the geriatric professional team or to work with the members of the team in a collaborative, not a traditionally medical-hierarchical-framework.

The geriatric physician can make a significant contribution in addressing the problems of the elderly that are complex, multi-system and unstable, while working within an interdisciplinary team effort. The physician can bring special expertise as a consultant, a teacher, a researcher or a person with unique and often critical insights to assist in the care of the other professionals' patients.

Perhaps more importantly, the geriatric physician has unique skills and perspectives with which to participate in the process of assessment that is so critical to effective multidisciplinary chronic care. Diagnosis remains the primary act of the physician and the most critical aspect of effective geriatric care. The physician should clearly play a critical role in promoting a community support system as well as playing a role that is technical and consultative in nature but not necessarily managerial.

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APPENDIX 1

Canadian Hospitals and Health Centres with Geriatric Assessment Services

The following Canadian hospitals and care centres indicated that their geriatric services include an assessment/evaluation component. The list constitutes a revision of that which appeared in *Geriatric Assessment: The Canadian Experience.*

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ALBERTA

Alberta Hospital
17480 Fort Rd.
Edmonton, Alta.
T5J 2J7

Alberta Hospital
Box 1000
Ponoka, Alta.
T0C 2H0

Athabasca General & Auxiliary Hospital
P.O. Box 240
Athabasca, Alta.
T0G 0B0

Bethany Care Centre
916-18A Street N.W.
Calgary, Alta.
T2N 1C6

Calgary General Hospital
841 Centre Ave. E.
Calgary, Alta.
T2E 0A1

Care West
Administration Centre
1070 McDougall Road N.E.
Calgary, Alta.
T2E 7Z2

Coaldale Health Care Centre
Box 1268
Coaldale, Alta.
T0K 0L0

Cold Lake Regional Hospital Long Term Care
Postal Service A
Cold Lake, Alta.
T0A 0V0

Colonel Belcher Hospital (Calgary District Hospital Group)
1213- 4th Street S.W.
Calgary, Alta.
T2R 0X7

Coronation Paintearth Auxiliary Hospital & Nursing Home
Mail Bag 500
Coronation, Alta.
T0C 1C0

Crowsnest Pass Health Care Centre
P.O. Box 510
Blairmore, Alta.
T0K 0E0

Drayton Valley & District Health Complex
Box 838
Drayton Valley, Alta.
T0E 0M0

Drumheller Regional Health Complex
Box 4500
Drumheller, Alta.
T0J 0Y0

Glenrose Rehabilitation Hospital
10230- 111 Avenue
Edmonton, Alta.
T5G 0B9

Good Samaritan Auxiliary Hospital
9649 - 71 Avenue
Edmonton, Alta.
T6E 5J2

Innisfail Health Care
P.O. Box 250
Innisfail, Alta.
T0M 1A0

Municipal Auxiliary Hospital
Box 310
Cardston, Alta.
T0K 0K0

Oilfields General Hospital
Bag No. 1
Black Diamond, Alta.
T0L 0H0

Ponoka General Hospital
Box 699
Ponoka, Alta.
T0l 2H0

Queen Elizabeth II Hospital
MacKenzie Place
Postal Bag 26
10409 - 98 Street
Grande Prairie, Alta.
T8V 2E8

Rocky Mountain House General and Auxiliary Hospital
Box 940
Rocky Mountain, Alta.
T0M 1T0

Royal Alexandra Hospital
Social Service Dept.
10240 Kingsway Avenue
Edmonton, Alta.
T5H 3V9

St. Joseph's General Hospital
P.O. Box 490
Vegreville, Alta.
T0B 4L0

Taber and District Health Care Complex
P.O. Box 939
Taber, Alta.
T0K 2G0

University of Calgary Health Science Centre
3300 Hospital Drive N.W.
Calgary, Alta.

Vegreville Auxiliary Hospital and Nursing Home
Box 959
Vegreville, Alta.
T0B 4L0

Youville Geriatric Services
Edmonton General Hospital
11111 Jasper Ave.
Edmonton, Alta.
T5K 0L4

BRITISH COLUMBIA

Chemainus Hospital
Box 499
Chemainus, B.C.
V0R 1K0

Fairfield Health Centre
c/o 2101 Richmond Road
Victoria, B.C.
V8R 4R6

Greater Victoria Hospital Society
c/o Gorge Road Hospital
63 Gorge Rd. E.
Victoria, B.C.
V9A 1L2

Holy Family Hospital
7801 Argyle St.
Vancouver, B.C.
V5P 3L6

Juan de Fuca Hospital Society
1450 Hillside Ave.
Victoria, B.C.
V8T 2B7

Matsqui-Sumas-Abbotsford General Hospital Extended Care/Discharge Planning Unit
2179 McCallum
Abbotsford, B.C.
V2S 3P1

Mt. Saint Joseph's Hospital
3080 Prince Edward Street
Vancouver, B.C.
V5T 3N4

Riverview Hospital
500 Lougheed Highway
Port Coquitlam, B.C.
V3C 4J2

Stat Centre, Vancouver General Hospital
855 West 12th Avenue
Vancouver, B.C.
V5Z 1M9

St. Paul's Hospital
1081 Burrard Street
Vancouver, B.C.
V6Z 1Y6

University Hospital - Shaughnessy Site
4500 Oak Street
Vancouver, B.C.
V6H 3N1

MANITOBA

Brandon Mental Health Centre
Box 420
Brandon, Man.
R7A 5Z5

Deer Lodge Centre Inc.
2109 Portage Ave.
Winnipeg, Man.
R3J 0L3

Eden Mental Health Centre
Box 1300
Winkler, Man.
R0G 2X0

Health Sciences Centre
820 Sherbrooke Ave.
Winnipeg, Man.
R3A 1R9

Melita Health Centre
Box 459
Melita, Man.
R0M 1L0

Portage District General Hospital
5th Street S.E.
Portage la Prairie, Man.
R1N 1H3

Seven Oaks General Hospital
2300 McPhillips St.
Winnipeg, Man.
R2V 3M3

St. Boniface General Hospital
409 Tackle Ave.
Winnipeg, Man.
R2H 2A6

Winnipeg Municipal Hospital
1 Morley Ave.
Winnipeg, Man.
R3L 2P4

NEW BRUNSWICK

Chaleur Regional Hospital
1750 Sunset
Bathurst, N.B.
E2A 4A4

Edmunston Regional Hospital
21st Avenue
Edmunston, N.B.
E3V 2C1

The Moncton Hospital
135 MacBeath Ave.
Moncton, N.B.
E1C 6Z8

Oromocto Public Hospital
103 Winnebago St.
Oromocto, N.B.
E2V 1C6

St. John Regional Hospital
P.O. Box 2100
Saint John, N.B.
E2L 4L2

NEWFOUNDLAND

The Leonard A. Miller Centre for Health Services
100 Forest Rd.
St. John's, Nfld.
A1A 1E5

The Salvation Army Grace General Hospital
241 LeMarchant Rd.
St. John's, Nfld.
A1E 1P9

Waterford Hospital
Waterford Bridge Rd.
St. John's, Nfld.
A1E 4J8

Western Memorial Hospital
P.O. Box 2005
Corner Brook, Nfld.
A2H 6J7

NOVA SCOTIA

Camp Hill Hospital - A Hospital of Camp Hill Medical Centre
1763 Robie St.
Halifax, N.S.
B3H 3G2

St. Martha's Hospital
Antigonish, N.S.
B2G 2G5

The Nova Scotia Hospital
P.O. Box 1004
Dartmouth, N.S.
B3H 3Z9

ONTARIO

Almonte General Hospital
75 Spring St.
Carleton, Ont.
K0A 1A0

Atikokan General Hospital
120 Dorothy St.
Atikokan, Ont.
P0T 1C0

Cambridge Memorial Hospital
700 Coronation Blvd.
Cambridge, Ont.
N1R 3G2

Chedoke-McMaster Hospital
Box 2000, Station A
Hamilton, Ont.
L8N 3Z8

Dept. of Continuing Care
Centenary Hospital
2867 Ellesmere Rd
Scarborough, Ont.
M1E 4B9

Elisabeth Bruyère Health Centre
43 Bruyère St.
Ottawa, Ont.
K1N 5C8

The Freeport Hospital
3570 King St. E.
Kitchener, Ont.
N2A 2W1

Greater Niagara General Hospital
P.O. Box 1018
Niagara Falls, Ont.
L2E 6X2

Grey-Bruce Regional Health
Centre
1400 8th Street E.
Owen Sound, Ont.
N4K 6M9

Hawkesbury General Hospital
1111 Ghislain St.
Hawkesbury, Ont.
K6A 3G5

Humber Memorial Hospital
200 Church St.
Weston, Ont.
M9N 1N8

Joseph Brant Memorial Hospital
1230 North Shore Blvd.
Burlington, Ont.
L7R 4C4

Laurentian Hospital
41 Ramsey Lake Rd.
Sudbury, Ont.
P3E 5J1

Laverendrye General Hospital
110 Victoria Ave.
Fort Frances, Ont.
P9A 2B7

The Mississippi Hospital
100 The Queensway W.
Mississauga, Ont.
L5B 1B8

Montford Hospital
Pavillon de la Sagesse-
713 Montreal Rd.
Ottawa, Ont
K1K 0T2

National Defence Medical Centre
1745 Alta Vista Dr.
Ottawa, Ont.
K1A 0K2

North York General Hospital
Senior's Health Centre
2 Buchan Ct.
North York, Ont.
M2J 5A3

Ottawa Civic Hospital
Geriatric Assessment Unit
1053 Carling Ave.
Ottawa, Ont.
K1Y 4E9

Ottawa General Hospital
501 Smythe Rd.
Ottawa, Ont.
K1H 8L6

Parkwood Hospital
801 Commissioners Rd. E.
London, Ont.
N6C 5J1

Pembroke General Hospital
705 McKay St.
Pembroke, Ont.
K8A 1G8

Penetanguishene General Hospital
25 Jeffery St.
Penetanguishene, Ont.
L0K 1P8

Providence Centre
3276 St. Clair Ave. W.
Scarborough, Ont.
M1L 1W1

Public General Hospital
106 Emma St.
Chatham, Ont.
N7L 1A8

The Queen Elizabeth Hospital
550 University Ave.
Toronto, Ont.
M9P 3T8

Queensway-Carleton Hospital
3045 Baseline
Ottawa, Ont.
K2H 8P4

Queensway General Hospital
140 Sherway Drive
Etobicoke, Ont.
M9C 1A4

Runnymede Hospital
274 St. John's Rd.
Toronto, Ont.
M6P 1V5

Sarnia General Hospital
220 N. Mitton St.
Sarnia, Ont.
N6T 6H6

Scarborough General Hospital
3050 Lawrence Ave. E.
Scarborough, Ont.
M1P 2V5

Smiths Falls Community Hospital
South Unit
35 Elmsley St.
Smiths Falls, Ont.
K7A 2G6

St. Joseph's Health Centre of
London
P.O. Box 5777
London, Ont.
N6A 4L6

St. Joseph's Hospital
301 James St. S.
Hamilton, Ont.
L8P 3B6

St. Joseph Hospital
301 James St. S.
Sarnia, Ont.
N7T 6S3

St. Mary's of the Lake Hospital
340 Union, St
P.O. Box 3600
Kingston, Ont.
K7L 5A2

St. Michael's Hospital
Providence Villa and Hospital
(SMH)- 30 Bond St.
Toronto, Ont.
M5B 1W8

(PVH)- 3276 St. Clair Ave. E.
Scarborough, Ont.
M1L 1W1

St. Peter's Hospital
88 Maplewood Ave.
Hamilton, Ont.
L8M 1W9

St. Vincent Hospital
60 Cambridge St.
Ottawa, Ont.
K1R 7A5

Sunnybrook Medical Centre
2075 Bayview Ave.
Toronto, Ont.
M4N 3M5

Sydenham District Hospital
325 Margaret Ave.
Williamsburg, Ont.
N8A 4L1

West Park Hospital
82 Buttonwood Ave.
Scarborough, Ont.
M6M 2J5

Whitby General Hospital
Victoria & Gordon St.
Whitby, Ont.
L1S 5T2

Windsor Western Hospital Centre
1453 Prince Rd.
Windsor, Ont.
N9C 3Z4

PRINCE EDWARD ISLAND

Queen Elizabeth Hospital
Box 6600, Riverside Dr.
Charlottetown, P.E.I.
C1A 8T5

QUEBEC

Amqui Hospital
135 Hospital St.
Amqui, Que.
G0J 1B0

Argenteuil Hospital
145 Providence Blvd.
Lachute, Que.
J8H 4C7

Asbestos Hospital
475, 3rd Ave.
Asbestos, Que.
J1T 1X6

Centre hospitalier du Haut-Richelieu
920, boul. du Séminaire
St-Jean, Que.
J3A 1B7

Champlain de Verdun Hospital
1350 Leclair Blvd.
Verdun, Que.
H4H 2M7

Cité de la Santé de Laval
1755 René Laennec Blvd.
Vimont, Que.
H7M 3L9

Cooke Hospital
3450 Ste-Marguerite St.
Trois-Rivières, Que.
G8Z 1X3

Côte-des-Neiges Hospital
4565 Queen Mary Rd.
Montreal, Que.
H3W 1W5

Courchesne Hospital
383 Chemin Sainte-Foy
Quebec, Que.
G1S 2J1

Douglas Hospital
7105 Lasalle Blvd.
Verdun, Que.
H4H 1R3

D'Youville Hospital
1036 Belvédère St. S.
Sherbrooke, Que.
J1H 4C4

Enfant Jésus Hospital
1401 - 18th Street
Quebec, Que.
G1J 1Z4

General Hospital of la Région de l'Amiante Inc.
1717 Notre-Dame St. N.
Thetford Mines, Que.
G6G 2V4

Granby Hospital
205 Leclerc Blvd.
Granby, Que.
J2G 1T7

Haut-Richelieu Hospital
920 Séminaire Blvd.
Saint-Jean, Que.
J3A 1B7

Hôtel-Dieu d'Arthabaska Hospital
5 des Hospitalières
Arthabaska, Que.
G6P 6N2

Hôtel-Dieu Hospital
580, rue Bowen Sud
Sherbrooke, Que.
H1G 2E8

Hôtel-Dieu de Montmagny Hospital
350 Taché Blvd. W.
Montmagny, Que.
G5V 3R8

Hôtel-Dieu de Montreal Hospital
3840 Saint-Urbain Street
Montreal, Que.
H2W 1T8

Hôtel-Dieu de Québec
11, Côte du Palais
Quebec, Que.
G1R 2J6

Hôtel-Dieu de Roberval Hospital
140 Lizotte Ave.
Roberval, Que.
G8H 1B9

Hôtel-Dieu de Saint-Jérôme Hospital
290 Montigny
Saint-Jerome, Que.
J7Y 5T3

Hôtel-Dieu de St-Hyacinthe
1800, rue Des saules
St-Hyacinthe, Que.
J2S 2T2

Jacques-Viger Hospital
1051, rue St-Hubert
Montreal, Que.
H2L 3Y5

Jean-Talon Hospital
1385 Jean-Talon St. E.
Montreal, Que.
H2E 1S6

Jewish General Hospital
3755, Côte-Ste-Catherine
Montreal, Que.
H3T 1E2

JH-Charbonneau Hospital
3095 Sherbrooke St. E.
Montreal, Que.
H1W 1B2

Jonquière Hospital
230 de l'Hôpital
Jonquiere, Que.
G7X 7X2

Kaleri Hospital
C.P. 10
Kahnawake, Que.
J0L 1B0

Lachine Hospital
650 16th Avenue
Lachine, Que.
H8S 3N5

Lakeshore Hospital
160 Stillview Road
Pointe-Claire, Que.
H9R 2Y2

Laval St-Jude Hospital
4410 St-Martin Blvd.
Laval, Que.
H7T 1C3

Laval University Hospital
2705 Laurier Blvd.
Sainte-Foy, Que.
G1V 4G2

L'Enfant-Jésus Hospital
1401 18th St.
Quebec, Que.
G1J 1Z4

Maimonides Hospital
5795 Caldwell Avenue
Montreal, Que.
H4W 1W3

Maisonneuve-Rosemont Hospital
5689 Rosemont Blvd.
Montreal, Que.
H1T 2H1

Megantic Lake Hospital
3569 Laval Street
Megantic Lake, Que.
G6B 1A5

Mont-Laurier Hospital
R.R. 1
Mont-Laurier, Que.
J9L 3G3

Notre-Dame Hospital
1560 Sherbrooke Street E.
Montreal, Que.
H2L 4M1

Notre-Dame de la Merci Hospital
555 Gouin Blvd. W.
Montreal, Que.
H3L 1K5

Outaouais Regional Hospital
116 Lionel Emond
Hull, Que.
J8Y 1W7

Paul-Gilbert Hospital
9330, Hospital Centre Blvd.
Charny, Que.
G6X 1L6

Pierre Boucher Hospital
1333 Jacques Cartier Blvd. E.
Longueuil, Que.
J4M 2A5

Pieta Hospital
273 Laurier Street
Hull, Que.
J8X 3W8

Québec General Hospital
260 Langelier Blvd.
Quebec, Que.
G1K 5N1

Queen Elizabeth Montreal Hospital
2100 Marlowe Avenue
Montreal, Que.
H4A 3L6

Regional Grand-Portage Hospital
75 St-Henri Street
Rivière-Du-Loup, Que.
G6R 2A4

Robert-Giffard Hospital
2601 De la Canardière
Beauport, Que.
G1J 2G3

Royal Victoria Hospital
687 Des Pins Avenue W.
Room M8.12
Montreal, Que.
H3A 1A1

Roy-Rousseau Clinic
2591 De la Canardière
Beauport, Que.
G1S 2G2

Sacré-Coeur Montreal Hospital
5400 Gouin Blvd. W.
Montreal, Que.
H4J 1C5

Sainte Croix Hospital
570 Hériot St.
Drummondville, Que.
J2B 1C1

Sherbrooke University Hospital
3001 - 12th Avenue N.
Fleurimont, Que.
J1H 5N4

St-Augustin Hospital
2135 Terrasse Cadieux
Beauport, Que.
G1C 1Z2

Ste. Anne Hospital
305 St. Pierre St.
Sainte Anne de Bellevue, Que.
H9X 1Y9

St-François d'Assise Hospital
10 de l'Espinay Street
Quebec, Que.
G1L 2H1

St-Lambert Hospital
831 Notre-Dame
St-Lambert, Que.
J4R 1S1

St-Louis de Windsor Hospital
23 Ambroise Dearden Street
Windsor, Que.
J1J 1G8

St-Luc Hospital
1058 St-Denis Street
Montreal, Que.
H3T 1E2

St. Mary's Hospital Center
3830 Lacombe Avenue
Montreal, Que.
H3L 1M5

St-Sacrement Hospital
1050 Ste-Foy Road
Quebec, Que.
G1S 4L8

St-Vincent de Paul Hospital
300 King East Street
Sherbrooke, Que.
J1G 1B1

Valleyfield Hospital
150 St. Thomas St.
Valleyfield, Que.
J6T 6C1

Youville Hospital
531 Laviolette Street
St-Jerôme, Que.
J7Y 2T8

SASKATCHEWAN

Bienfait Coalfields Union Hospital
Bienfait, Sask.
S0C 0M0

Kerrabert Union Hospital
Box 320
Kerrabert, Sask.
S0L 1R0

Regina General Hospital
Regina Assessment and Placement
1440 - 14th Avenue
Regina, Sask.
S4P 0W5

St. Joseph Hospital
1401-1 Street
Estevan, Sask.
S4A 0H3

St. Peter Hospital
C.P. 1810
Melville, Sask.
S0A 2P0